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WAAF
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FUTURE
ISSUE 118

HERO OF FALAISE
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SCAN TO GET OUR WEEKLY NEWSLETTER

Above: Discover how the women behind 'The Few' played a vital role in the Battle of Britain and beyond

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CONTRIBUTORS

DR SARAH-LOUISE MILLER

Dr Miller is a researcher, historian and visiting scholar at the Faculty of History, University of Oxford. On page 24 she recounts the contribution of the Women's Auxiliary Air Force during the Second World War, including some incredible first-hand testimony from those who served.

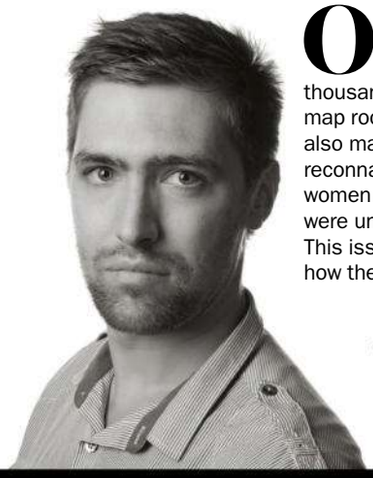
MURRAY DAHM

A **History of War** regular, this issue Murray takes a look at the Great Battles, recounting the ancient clash at Milvian Bridge in 312 CE. The battle sealed the victory of Constantine as the undisputed emperor of Rome (p34).

ALEX BOWERS

This month Alex recounts how Major David Currie earned Britain's highest military honour, the Victoria Cross, at the Falaise Gap, August 1944. While in command of a number of tanks and SPGs, Currie captured over 2,000 enemy combatants in the Falaise Pocket (p52).

Welcome



On 28 June 1939, King George VI established the Women's Auxiliary Air Force (WAAF) – an organisation that just under a year later played a critical role in the Battle of Britain. Though thousands of women played their part in defending their country as map room plotters, radio operators, mechanics and more, there were also many who worked in far more secretive roles. From analysing reconnaissance intelligence to decoding Nazi transmissions, these women helped plan the liberation of occupied Europe, though they were unable to discuss this important work even with their families. This issue Dr Sarah-Louise Miller shares their incredible stories and how they contributed to victory over the Axis powers.

Tim Williamson
Editor-in-Chief

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WAAF

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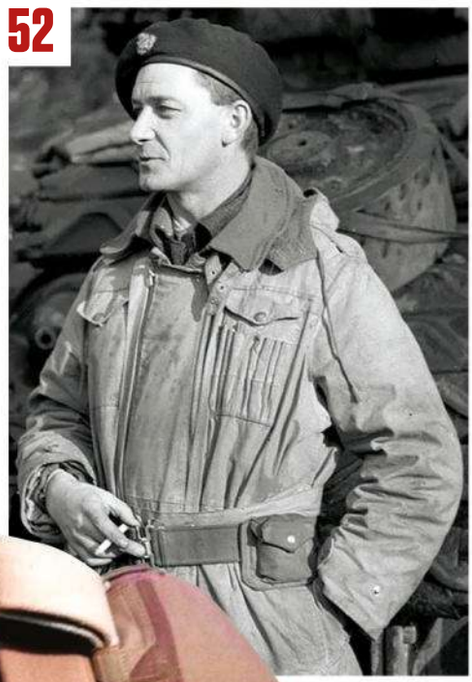

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WAR in FOCUS

PORTONACCIO SARCOPHAGUS

c.180 CE

Discovered in Rome, this sarcophagus was likely used to bury a Roman general killed in the Germanic-Sarmatic Campaign of 172-75 CE during the Marcomannic Wars. These conflicts occupied a large part of the reign of Emperor Marcus Aurelius, with this elaborate sarcophagus being one of 25 surviving Roman military sarcophagi from the period. It depicts a chaotic battle between Roman soldiers and barbarians who are probably Suebian Germans. There are also women, with a frightened mother and child depicted in the top-left section.

© Getty

© Alamy

WAR in FOCUS

WAR KITTEN

19 July 1918

A British officer of the 44th Siege Battery, Royal Garrison Artillery, smokes a pipe as he supervises a kitten balancing on a 12-inch shell. Hundreds of thousands of cats could be found across the Western Front during the First World War. They performed a useful role culling the overwhelming number of rodents in the trenches and elsewhere. Cats also became mascots for individual units, with soldiers often finding comfort in caring for them. This pictured kitten was photographed near Arras, France, one day after the end of the German Spring Offensive.

© Getty

WAR in FOCUS

AIR GUNNERY TRAINING

13 March 1940

Members of the Royal Air Force Volunteer Reserve (RAFVR) train as air gunners on a camera machine gun. This piece of equipment took photographs when the trigger was pulled as an aid to help gunners correct their aim. In this picture, the gunner is aiming at a model aircraft on a pole that is being carried by his running comrade. The RAFVR was a reserve unit but it quickly became the main pathway for aircrew to enter the RAF in 1940 due to the pressures created by the Battle of Britain.

TIMELINE OF THE...

YOM KIPPUR WAR

Israel and an Arab coalition led by Egypt and Syria fight a short but bitter war in 1973 that redraws the Middle Eastern map and causes an international energy crisis

YOM KIPPUR

Egypt and Syria launch a two-front offensive against Israel from the north and south. The attacks deliberately coincide with Yom Kippur – Judaism's holiest day. This is the only day in the Israeli calendar when communications and transport networks shut down for religious observance.

5-10 June 1967 — **1967-73** — **6 October 1973** — **6-8 October 1973**

Israeli tanks advance towards Egyptian military positions on the Sinai Peninsula during the Six-Day War

SIX-DAY WAR

Israel defeats an Arab coalition in a brief conflict. The Golan Heights are captured from Syria, the West Bank from Jordan and the Gaza Strip and Sinai Peninsula from Egypt.

ARAB COALITION FORMATION

After years of political deadlock, Egypt and Syria form a military coalition against Israel that is supported by the Soviet Union and includes expeditionary forces from several Arab states. Their aim is to retake occupied territory from the Israelis.

Anwar Sadat, president of Egypt, directs operations against Israel at his military headquarters in 1973

OPERATION BADR 01

Badr is the Egyptian operation to cross the Suez Canal and seize Israeli fortifications known as the Bar Lev Line. The Israelis are taken by surprise with the Egyptians being able to take east bank of the canal and establish defensive bridgeheads along a 100-mile (160km) front.

Raising of the Egyptian flag for the first time on the Israeli Bar-Lev line of defence

"ARAB STATES DECLARE AN OIL EMBARGO AGAINST WESTERN POWERS THAT LEADS TO THE 1973 OIL CRISIS"

An Israeli soldier kneels down to pray

A column of Israeli tanks advances through the Sinai Desert

BATTLE OF THE SINAI 04

Involving approximately 2,000 tanks, this engagement is one of the largest tank battles in military history. The Israelis destroy at least 234 Egyptian tanks after the Egyptians advance from their forward defences at the Bar Lev Line.

Israeli missile boats return to their base in Haifa following the battle

NAVAL BATTLES 03

The Israeli Navy defeats the Syrians and Egyptians at Latakia and Baltim in the Mediterranean Sea. The Syrian defeat at Latakia forces its navy to remain in home ports for the rest of the war.

6-9 October 1973

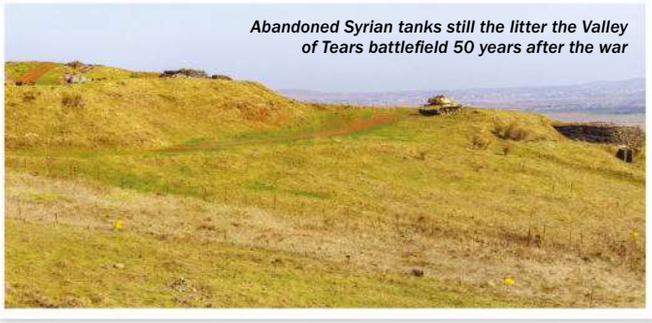
7-9 October 1973

9 October-14 November 1973

14 October 1973

VALLEY OF TEARS 02

An outnumbered brigade of 175 Israeli tanks defeats a division of 700 Syrian armoured vehicles in the Golan Heights. The Syrians lose over 500 tanks and their offensive into Israeli territory is halted.



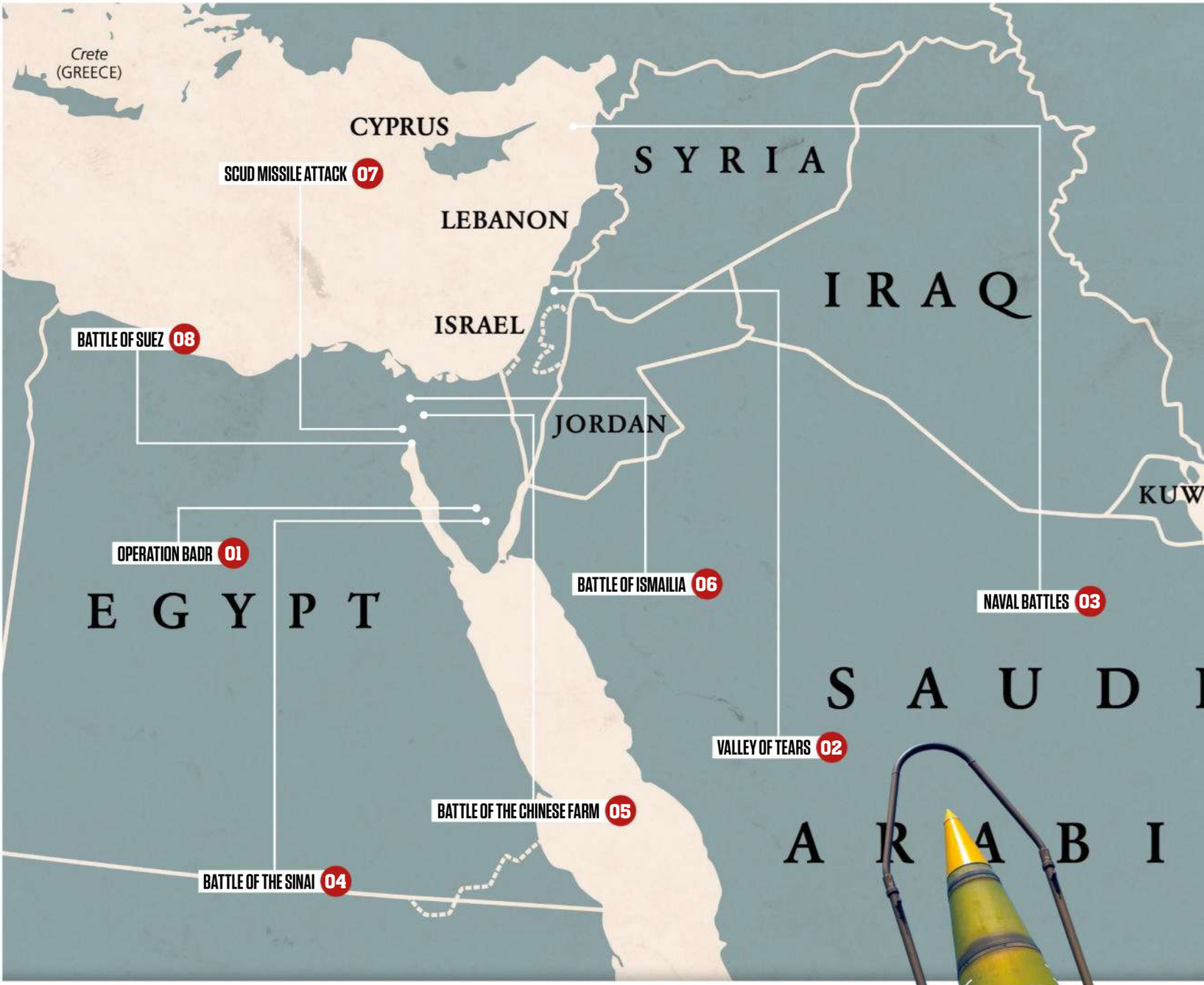
Abandoned Syrian tanks still the litter the Valley of Tears battlefield 50 years after the war

OPERATION NICKEL GRASS

The United States conducts a strategic airlift to deliver weapons and supplies to Israel. American support enables Israel to survive coalition attacks but Arab states declare an oil embargo against Western powers that leads to the 1973 Oil Crisis.

An American petrol station declares it has no supplies in late 1973

Images © Alamy, Getty, Wiki / PD / Gov



15-17 October 1973

BATTLE OF THE CHINESE FARM 05

Otherwise known as Operation Abiray-Lev, Chinese Farm sees the Israelis attempt to establish a logistical corridor to the Suez Canal. The Israelis win the battle but intense Egyptian resistance results in heavy casualties on both sides.

A bandaged Major General Ariel Sharon confers with Major General Haim Bar-Lev, 17 October 1973

18-22 October 1973

BATTLE OF ISMAILIA 06

Israeli forces attempt to capture the city of Ismailia on the west bank of the Suez Canal. They encounter determined Egyptian resistance and the Israelis are repulsed from Ismailia before a UN ceasefire ends the battle.

An Egyptian commando observes destroyed Israeli tanks at a village near Ismailia

22 October 1973

SCUD MISSILE ATTACK 07

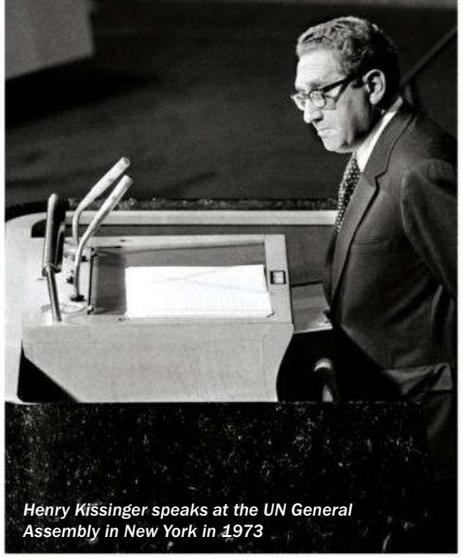
The first operational use of a Scud missile occurs when Egypt launches three against Israeli targets. One is fired at the Sinai city of Arish while the other two are fired at an Israeli position on the Suez Canal's west bank. Seven Israeli soldiers are killed.

Scuds are Soviet-developed tactical ballistic missiles that have been used in conflicts such as the Gulf War and Syrian Civil War

CEASEFIRE

The United Nations Security Council adopts Resolution 340 to implement a ceasefire that ends the war. It is largely passed through the intervention of US Secretary of State Henry Kissinger, who explains to the UN the evolved American policy towards the war.

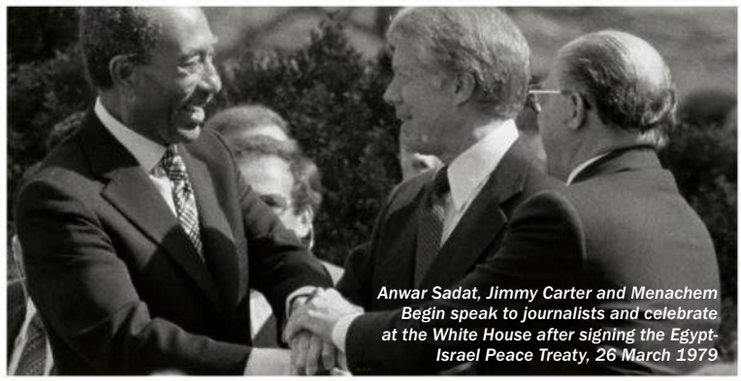
"THE ACCORDS SET OUT TWO FRAMEWORKS FOR A SPECIFIC PEACE TREATY BETWEEN EGYPT AND ISRAEL ALONG WITH A BROADER PLAN FOR PEACE IN THE MIDDLE EAST"



Henry Kissinger speaks at the UN General Assembly in New York in 1973

EGYPT-ISRAEL PEACE TREATY

US President Jimmy Carter witnesses a peace treaty between Egypt and Israel at the White House. Israel withdraws its soldiers and settlers from Sinai in exchange for normal relations with Egypt and a lasting peace. It is the first peace treaty between Israel and an Arab state.



Anwar Sadat, Jimmy Carter and Menachem Begin speak to journalists and celebrate at the White House after signing the Egypt-Israel Peace Treaty, 26 March 1979

CAMP DAVID ACCORDS

At the White House, Egypt and Israel sign a series of partial political agreements for peace. The accords set out two frameworks for a specific peace treaty between Egypt and Israel along with a broader plan for peace in the Middle East.

Egyptian President Anwar Sadat (right), US President Jimmy Carter (centre) and Israeli Prime Minister Menachem Begin (left) at Camp David

24-25 October 1973 — 25 October 1973 — 31 May 1974 — 17 September 1978 — 26 March 1979

BATTLE OF SUEZ 08

The last major battle of the war takes places in Suez between Egyptian and Israeli forces. Israeli paratroopers and an armoured column are ambushed by the Egyptians during their attempt to take the city. The Israelis retreat to their own lines.

Israeli soldiers pictured resting inside Suez City

Israel and Syria reach an agreement at a summit in Geneva, Switzerland

DISENGAGEMENT AGREEMENT

Israel and Syria sign an agreement that officially ends attritional warfare on the Syrian front. POWs are exchanged and Israel withdraws from the area around Mount Hermon. Although not a peace treaty, the agreement is still in force in 2023.

Images © Alamy, Getty, Wiki / PD / Gov

EGYPT STRIKES BACK

To avenge its humiliation in 1967 the Egyptian military assaulted the Israeli-occupied Sinai Peninsula during the Yom Kippur holiday

Having assumed office in 1970 the new Egyptian strongman President Anwar Sadat wanted to restore his country's stature in the region. When his overtures for a peace treaty with Israel were rebuffed he settled on the catchphrase "No War, No Peace" to encapsulate his own policy toward Jerusalem. Still confident about Egypt's role in the Arab world he made plans for assembling a pan-Arab coalition and tried to build a separate alliance with the United States. In 1972 he went as far as sending thousands of Soviet advisors and engineers home knowing full well their work was essential to the Egyptian armed forces and other endeavours, such as the prestigious Aswan High Dam.

In 1972, however, the mood in Cairo was tense. The War of Attrition in the Sinai Peninsula, where Israeli and Egyptian forces skirmished regularly, had resulted in no gains after several years. With the Soviets back in the fold preparations were made for a settling of accounts with Israel. To prepare for the war Egypt fielded the latest weapons delivered to its armed forces. This time, a combination of hubris and flawed decision-making by Israel's defence ministry blinded its government to the looming threat. The spirit of 1967 and the heroic generals who had achieved its spectacular victories was alive and well, for better or worse.

One of the enduring questions about the Yom Kippur War was the contrast between Prime Minister Golda Meir's dismal intelligence gathering on the Arab armies even when dire warnings had been reported to her. Meanwhile, the Israeli troops along the defensive rampart called the Bar Lev Line, a network of forts and watchtowers along the Suez Canal's eastern bank, saw extensive preparations being made before their very eyes. As early as 5 October 1973 sentries and their officers noticed groups of Egyptian soldiers watching them from the other side. By 6 October it was obvious masses of enemy troops and vehicles were positioned across the Suez Canal's western shore. At 2.30pm hundreds of guns and rocket launchers rained high explosives and smokescreen on Israeli positions – it was too late.

In a matter of hours some 2,000 rubber dinghies and motorised boats delivered combat engineers and Egyptian infantry right up to the Israeli forts. Braving the defenders' machine gun fire, the Egyptians established secure bridgeheads and eased the passage for at least a division's worth of troops by blasting the towering sand berms with

Egyptian forces crossed the Suez Canal at the start of the war, and advanced into the Sinai Peninsula, lost to Israel in the Six Day War

hoses fed by seawater pumped from the canal. Late in the afternoon reinforcements to the Bar Lev Line, including the IDF's vaunted Centurion tanks and the hand-me-down M3 halftracks, rushed to meet the Egyptians. In another glaring intelligence failure Israeli commanders failed to anticipate the widespread use of Malyutka anti-tank missiles. These small precision weapons were carried in a handheld box resembling a suitcase. Once the munition was assembled – its warhead attached to the booster assembly – the operator loaded it on its mount, which was the same container used for carrying it, and aimed using a separate portable optic. As a manual command line-of-sight (MCLOS) missile the operator relied on a joystick to guide its flight while maintaining his reticle on the target. Each of these missiles, known by their NATO designation AT-3 Sagger, could fly up to 8,200ft (2,500m) and penetrate 20in (500mm) of steel armour. Against the Centurians, Pattons, and Shermans of the IDF the Malyutkas performed as expected. Countless tanks were lost in the first days of the war, if not from missiles then from the ubiquitous RPG-7 and other recoilless weapons.

The Israeli Air Force (IAF) was not spared from infamy. The renowned branch made a poor showing in the 48 hours after Egypt began its assault. Hoping to repeat the success of 1967 the IAF's Phantoms and Skyhawks approached the Suez only to be locked by an umbrella of S-75, S-125 and the cutting-edge 2K12 surface-to-air missiles (SAMs). The 2K12 Kub, known by its NATO designation SA-6, was a tracked vehicle loaded with three medium-range SAMs. The headache it presented to Israeli pilots was its mobility as it accompanied armoured formations and could be readied to fire within minutes. When these systems were used alongside the ZSU-23-4 self-propelled anti-aircraft gun and air defence troops carrying shoulder-fired Strela-2 or SA-7 MANPADS, the IAF failed to grasp what it was up against.

"COUNTLESS ISRAELI TANKS WERE LOST IN THE FIRST DAYS OF THE WAR, IF NOT FROM MISSILES THEN FROM THE UBIQUITOUS RPG-7"

Although the IDF regained the initiative after the first week of the war the losses it suffered were staggering for a small country like Israel. Before the armoured showdown known as the Battle of the Chinese Farm (a Japanese agricultural laboratory) the IDF lost half its tanks in the southern front. The air forces' precious F-4 Phantoms were decimated as well, although the IAF adjusted its tactics to avoid Egyptian SAM coverage. When US resupply efforts kicked in the IDF manoeuvred its reconstituted armoured brigades to reach the Suez Canal and cross into Egypt proper as part of Operation Valiant. The crossing was done in stages from 15 until 16 October, first with commandos, then with pontoons and a massive steel bridge that had wide rollers underneath its spans for ease of transport. An earthen crossing was also assembled to hasten the deployment of IDF tanks. The resulting encirclement of the Egyptian Third Army became a contentious issue in the diplomatic wrangling between Tel Aviv and Washington.

The end of the war on 24 October was a shambles for all sides. Israel lost an estimated 3,000 soldiers killed in battle (the IDF counts 2,691 as the official death toll). These figures were the highest casualties Israel had suffered in an all-out war since 1948. The Egyptian forces may have lost three-times that number but Sadat wasted no time selling his nation's victory to the citizens. Until the very end of his life, when he was gunned down by assassins at a commemorative military parade on 6 October 1981, the charismatic dictator milked the legacy of what was referred to as the October War, or Ramadan War, as a spectacular feat of arms that restored Arab pride.

Israeli Defence Minister Moshe Dayan (left) and Major General Ariel Sharon at the IDF bridgehead west of the Suez Canal. Israel ended the war on its terms but eventually withdrew back to the Bar Lev Line

Images: Getty

STRUGGLE FOR THE GOLAN

The IDF thought it held the perfect buffer against the Syrians, but on 6 October its men were outgunned and outnumbered in a brutal tank battle

Rising more than 3,280ft (1,000m) above sea level, the wind-swept plateau controlled by Israel since the Six-Day War in 1967 offered an uninterrupted view of the farmlands below. The Golan Heights also gave its occupier a valuable advantage: push a little farther northeast and the road to Damascus, the Syrian capital, beckoned. It was for this reason that Hafez al-Assad, a former air force officer who'd seized the Syrian presidency in a violent coup d'etat in November 1970, embraced the Soviet Union in a long-standing alliance. With Soviet assistance the battered Syrian military was rebuilt and re-organised. After a year of consultations with Cairo the war plans were settled, and Mossad's moles tried in vain to warn Israel's leadership of the impending attack. A useful bit of context regarding the Cairo-Damascus alliance was their short-lived experiment with the United Arab Republic (UAR). Even if the UAR did not work in bringing together the two countries there was still a consensus in 1973 that a pan-Arab federation was feasible, perhaps after Israel was defeated in a war of revenge. On the agreed date, 6 October, the Syrians shattered the Israeli Purple Line that served as an unofficial border with an intense artillery barrage.

What made Syria successful on the first day of the war was its deployment of special forces and other elite units. Evading detection from Israeli air defences, Syrian commandos were inserted by helicopter at Mount Hermon while crack teams of engineers cleared paths across the Israeli minefields and obstacles along the Purple Line. The loss of Hermon, whose summit offered a vantage point for observing the Lebanese border and northern Israel's farmlands, was a slap in the face for Tel Aviv. The token

Syria lost an estimated 1,200 tanks on the northern front during the war but the USSR did not hesitate to immediately rebuild its armoured fleet

garrison defending it was quickly overrun and Syrian special forces repulsed the elite Golani Brigade in a pitched battle until their untimely withdrawal between 19 and 20 October. While the air and ground forces struggled against the Arab armies, Israel's miniscule navy enjoyed more success with its Saar-class fast-attack craft engaging multiple Syrian vessels along the Mediterranean coast.

An odd contrast to the importance of the Golan Heights for the Israeli high command was its decision that its defence would rely on two under-strength armoured brigades – the 7th and the 188th Barak. On 6 October the sheer mass of Syrian artillery almost scattered either formation and for the first time ever the IDF's Centurion tanks came face to face with the new Soviet T-62 medium tanks of the Syrian Arab Army. The dimensions of the T-62 were smaller than the Centurion but its dome-shaped cast-steel turret came armed with a 4.5in (115mm) smoothbore gun. Until the late 1970s the largest tank armaments in the West were the 4.7in (120mm) rifled guns on British Army Chieftains, but these were never supplied to Israel.

Over the span of 72 hours the IDF in the northern front was scattered from its once-advantageous positions. It was only on the fifth day of hostilities, 10 October, when the last remaining tanks belonging to the 77th Battalion, or Oz 77, tried blocking the Syrian push out of Kuneitra. If they failed, a full Syrian tank division could reach the Jordan Valley or threaten the road to Haifa. This particular battle, memorialised as the Valley of Tears, was won by a stroke of luck when 17 Centurion tanks arrived to reinforce the beleaguered 77th and their battered vehicles. In the following days the Syrians retreated and hundreds of their armoured vehicles littered the once picturesque terrain.

When fresh supplies and weapons began to arrive from the United States from 14 October onward the IDF collected nine full brigades, including its commando units, and flushed out the Syrians in less than a week. This brought the IDF head-to-head against the oncoming Iraqis and Jordanians. The Yom Kippur War did have a global dimension, and batches of troops from different parts of the Arab world participated. The Iraqi Army's 6th Armoured Brigade, with little preparation, tangled with the IDF in multiple skirmishes. Also present at the Golan front were Jordanian and Moroccan troops, but they were too few in number to make a difference. On the southern front Libya's Colonel Muammar Gaddafi promised to send reinforcements but they arrived on the day the fighting stopped.

Seeing itself in competition with the Americans, the Soviet Union continued replenishing Syrian losses and by 23 October it'd delivered 600 fresh T-62 medium tanks, and Assad's generals had drawn up a counter-offensive to rollback the Israeli tanks that were a mere 22 miles (35km) away from Damascus. Joining the Syrians were three fresh Iraqi divisions and some Palestinian militia. However, Egypt accepted the United Nations-brokered ceasefire on 24 October and the war concluded the day after. Damascus never recognised Israel's presence on the Golan Heights but in 2019 the mountain range was formally annexed by Jerusalem with the blessing of the United States.

"WHAT MADE SYRIA SUCCESSFUL ON THE FIRST DAY OF THE WAR WAS ITS DEPLOYMENT OF SPECIAL FORCES AND OTHER ELITE UNITS"

British war correspondent Nicholas Tomalin inspects the wreckage of a Syrian ZSU-23-4 self-propelled anti-aircraft gun

Images: Getty

The C-141 lived up to its name – the Starlifter – by delivering the bulk of the 22,000 tons in war materiel needed by Israel

NICKEL GRASS THE GREAT AIRLIFT

With the IDF suffering multiple setbacks in the first week of the war, Israel's leadership faced a terrifying possibility. Was this the last great struggle in their country's brief existence?

Although US President Richard Nixon and his cabinet supported Israeli PM Golda Meir's requests for more aid, by 8 October the Israeli government was begging for a torrent of armaments to replenish its overstretched ground forces. In the Sinai alone US intelligence estimated the IDF lost 432 tanks after just three days of fighting (the Soviets were not far off, estimating 500 Israeli tanks lost) and the aerial battles were taking a toll as well. Pre-war Israeli air power counted 358 modern fighter jets and as many as one-third were shot down by the enemy in the duration of the war. The US decision to send weapons and supplies for Israel was made on 9 October and organised by the White House, the State Department and the Department of Defense, with Secretary of State Henry Kissinger acting as liaison between Tel Aviv and the Oval Office. Kissinger remained divisive: the US foreign policy establishment saw him as too pro-Israel but public opinion in the Jewish state loathed him as an appeaser. Regardless, the first flights of C-5 Galaxy transports landed in Tel Aviv's Lod International Airport on 14 October with much needed 4in (105mm) howitzer ammunition. Over the next 13 days the US Air Force's Military Airlift Command (MAC) were off-loading tanks, howitzers, and even additional Phantom and Skyhawk jets. The 6,450-mile (10,380km) distance was further complicated by the reluctance of NATO allies to share their own supplies. What became Operation Nickel Grass was a unilateral US effort.

The timely arrival of ECM pods and Maverick air-to-ground missiles gave Israel's struggling air force a decisive edge against enemy air defences

A critical piece of technology that saved Israeli pilots' lives were electronic countermeasure (ECM) pods for their F-4 Phantoms and A-4 Skyhawks. These cylindrical devices, slung under the wing of the aircraft, blotted out enemy tracking radars that fed data to their SAMs. To give the air force a real stand-off attack capability superior to unguided rockets, large quantities of AGM-65 Maverick air-to-ground missiles reached the Israelis. These TV-guided munitions had a large optical seeker that could lock on any target over dozens of miles away. An abundance of Mavericks helped degrade and reduce the logistical tail of the overstretched Syrian divisions. By 16 October the Egyptians had been out-manoeuvred in the Sinai and the Syrians were nearly kicked out of the Golan Heights.

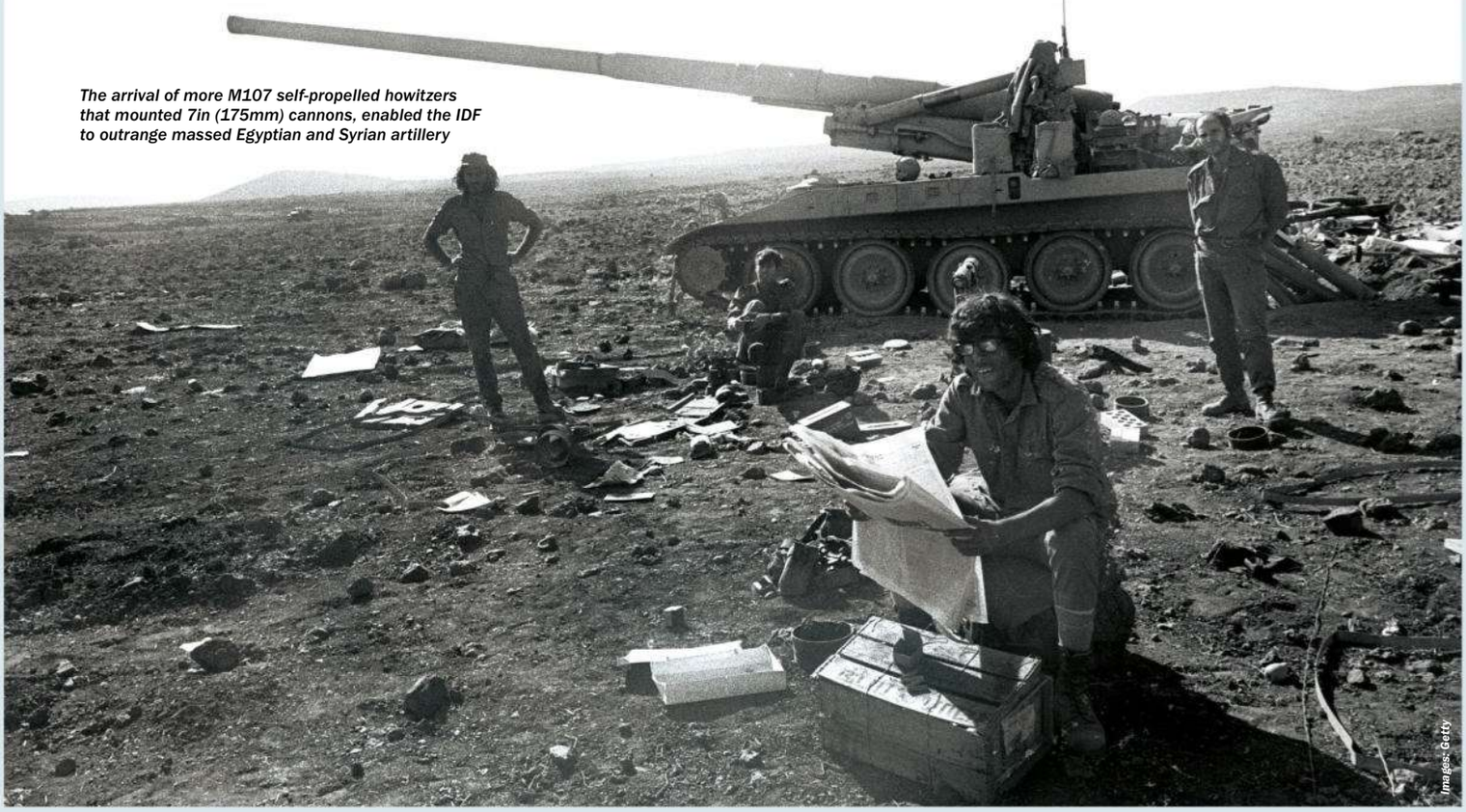
Other advanced weapon systems Israel received were the AIM-7 Sparrow air-to-air missile and additional MIM-23 Hawk surface-to-air missiles. The IDF were at a disadvantage when it came to ground-based air defences but the resupply of Hawks meant Israel's airspace was not overwhelmed by the enemy air forces. Egypt did have a collection of Ilyushin-28 and Tupolev-16 bombers but these did not attack Israel's vulnerable cities. The MAC's continuous resupply of Israeli stocks included an undetermined quantity of BGM-TOW anti-tank missiles and their launchers. These bulky weapons were less portable than the Soviet Malyutkas given to the Egyptians and Syrians; the launcher, affixed on a heavy tripod, couldn't be operated with its thermal sight without the attached external battery. Yet they did inflict their fair share of losses on enemy armour.

A complete inventory of Operation Nickel Grass has never been disclosed. The US Air Force and the historical media that emerged after the Yom Kippur War established a cumulative 22,300 tons of war materiel reached Israel from 13 October until 14 November. The fighting may have ended by 24 October but the MAC's flights and seaborne deliveries carried on for a whole month to rebuild the IDF's offensive power. The Soviets were resupplying their allies as fast as they could but, as a result of using propeller transports such as the Antonov-12 and the Antonov-22, they only managed 13,000 or 15,000 tons compared to the US Air Force's record.

The success and legacy of Operation Nickel Grass is inarguable and, while it turned the tide for Israel, was more useful for the US Air Force and its NATO allies in the long term. It showed how trans-Atlantic and trans-continental airlifts during a regional war were a powerful strategic advantage if a future conflict pitted NATO against the Warsaw Pact. The US Air Force also tested its newer C-5 Galaxy heavy transport which flew alongside the bigger C-141 Starlifters together with allied partners such as Israel's national airline El Al.

There remain unanswered controversies surrounding the airlift, and the maritime resources used for supplying Israel have faded into obscurity. An uncomfortable question is whether Meir and her cabinet reached a consensus to arm Israel's nuclear weapons days before Washington launched Operation Nickel Grass. Israel had developed its nuclear weapons in the 1960s, with French assistance, and by 1973 it had the means to unleash these by air and through short-range ballistic missiles.

"WHAT BECAME OPERATION NICKEL GRASS WAS A UNILATERAL AMERICAN EFFORT"



The arrival of more M107 self-propelled howitzers that mounted 7in (175mm) cannons, enabled the IDF to outrange massed Egyptian and Syrian artillery

Images: Getty

CAMP DAVID ACCORDS

Efforts to officially end the Yom Kippur War and wider conflict between Egypt and Israel finally concluded with an historic summit in the US

When the Yom Kippur War ended with a ceasefire on 25 October 1973, negotiations for a solution to the Arab-Israeli conflict were attempted shortly afterwards. The United Nations Security Council Resolution 338 that called for the ceasefire had declared "immediately and concurrently with the cease-fire, negotiations [should] start between the parties concerned under the appropriate auspices at establishing a just and durable peace in the Middle East".

Resolution 338 was not just referring to the immediate Yom Kippur War but a decades-long Arab-Israeli conflict that had been occurring since the state of Israel's establishment in 1948. On 21 December 1973, a conference was held in Geneva, Switzerland, under the auspices of the UN secretary general with American and Soviet Union representatives acting as co-chairmen.

The foreign ministers of Israel, Egypt and Jordan attended the conference. However, Syria – which was the second party of the Arab coalition – did not send

Anwar Sadat (left), Jimmy Carter and Menachem Begin celebrate the signing of the Camp David Accords at the White House

"ALTHOUGH BEGIN AND SADAT WERE BOTH PRESENT AT CAMP DAVID, THEY WERE NOT ON SPEAKING TERMS"

a representative. US Secretary of State Henry Kissinger worked hard to ensure that the conference concluded with a peace agreement but no final conclusion was reached. Nevertheless, Israel did sign military disengagement deals with Egypt and Syria in 1974.

Most of the fighting during the Yom Kippur War had been between Egypt and Israel and so any peace treaty depended upon both countries agreeing to settle their differences. Progress towards this took years but developments were positive. On 4 September 1975, Egypt and Israel signed the Sinai Interim Agreement in Geneva which stated that any conflicts "shall not be resolved by military force but by peaceful means".

Camp David

The Sinai Interim Agreement demonstrated to the Americans that both countries were abiding by UN Resolution 338. When Jimmy Carter was elected as US president on 20 January 1977 he began working with his Secretary of State Cyrus Vance to reinvigorate the Arab-Israeli peace process. Over the next 14 months the pair developed a framework for negotiations that had three main objectives. Peace would depend on Arab states recognising Israel's right to exist, while Israel would withdraw from occupied territories gained during the 1967 Six-Day War. It was also planned for Jerusalem to become an undivided city.

In May 1977, Menachem Begin was elected as Israeli prime minister. The leader of the conservative Likud Party, Begin believed in a "greater Israel" and was reluctant to exchange land for peace, but Egyptian President Anwar Sadat (who had led Egypt during the Yom Kippur War) made a surprising offer. In November 1977, Sadat declared he was willing to visit Jerusalem for direct negotiations with the Israelis for a Middle East peace settlement.

Talks were held between Egypt and Israel over the following months but there were disagreements over proposed Israeli withdrawals from Sinai, the West Bank and Gaza. When Sadat threatened to cut off negotiations in July 1978, Carter directly interceded between the two countries.

Carter decided that a summit would be held at his presidential country retreat of Camp David, Maryland, with both Begin and Sadat in attendance. During almost a fortnight between 5-17 September 1978, secret negotiations occurred at Camp David to work out a detailed Egyptian-Israeli peace agreement.

Although Begin and Sadat were both present at Camp David, they were not on speaking terms. Carter and Vance had to meet the Egyptian and Israeli delegations separately while discussing complex issues. This included the Israeli military and civilian presence in Sinai and the political status of the West Bank and Gaza. Palestinian authority in the latter territories was heavily contested, with the summit ultimately producing two agreements to address the issues between Egypt and Israel.

Frameworks for peace

Begin and Sadat signed two agreements known as Frameworks at the White House on 17 September 1978. The first, A Framework for Peace in the Middle East, recognised the "legitimate rights of the Palestinian people" but it was written without Palestinian or United Nations participation and was therefore rejected by the UN General Assembly.

The second agreement, A Framework for the Conclusion of a Peace Treaty between Egypt and Israel, was more successful. The two countries agreed in principle to restore normal diplomatic relations with each other. Israel in particular agreed to withdraw its military presence and around 4,500 Israeli civilians from Sinai. The Egyptians would then be able to regain control of oil wells in western Sinai. In exchange, the Egyptians guaranteed Israeli freedom of passage through the Suez Canal and restricted its own military presence on Sinai near the border with Israel. Because of this framework, Begin and Sadat shared the Nobel Peace Prize in 1978.

The Camp David Accords were only partially successful but the second Framework enabled the Egypt-Israel Peace Treaty to be signed at the White House on 26 March 1979. By officially recognising Israel's right to exist, Egypt gained diplomatic leverage but at the cost of disintegrating the Arab coalition. Many Arab states believed Sadat had abandoned the Palestinian cause and he was assassinated by the Egyptian Islamic Jihad in 1981. Nevertheless, Egypt and Israel have enjoyed peaceful, though often tense, relations since 1979.

During negotiations, Jimmy Carter took Menachem Begin and Anwar Sadat on a tour of the Gettysburg National Military Park, Pennsylvania, on 10 September 1978

Images: Getty

WOMEN BEHIND 'THE FEW'

WAAF

The Women's Auxiliary Air Force and British Air Intelligence during the Second World War

WORDS **DR SARAH-LOUISE MILLER**

A member of the WAAF salutes as she receives her pay, 1939

"My favourite cousin Eric Padfield, two years older than I, had volunteered several months before the war for the Royal Air Force," Eileen Younghusband recalls. "He had always wanted to fly." Many of Eileen's male school friends had volunteered to serve with the British military services at the outbreak of war, and a rising feeling of patriotism, born out of the Blitz and the havoc, death and destruction it was wreaking, was growing throughout the country.

Before long Eric was fully trained and commissioned as a pilot officer with the RAF. When he was killed in August 1940, Eileen, along with the rest of her family, was devastated. "I was deeply affected by his death," she remembers. "It made me realise that helping in a YMCA canteen and working in a comparatively safe and comfortable office was not enough. I had to do more for my country." Eileen was 19 years old when she applied to join the Women's Auxiliary Air Force (WAAF), and she was delighted to receive a summons to the Air Ministry in London for an interview.

Adolf Hitler's rise to power and the looming threat of another world war in the second half of the 1930s had forced the British military services to consider potential manpower issues. The British Army, the Royal Navy and the RAF had looked to Britain's female population during the First World War to fill roles at home in Britain that would release men for service on the front lines. All three had demobilised their female personnel at the end of that conflict, and no peacetime women's military services existed.

***Opposite, clockwise from top-left:** An WAAF flight mechanic with a parachute before a test flight, October 1942*

WAAF plotters receive information from a coastal radar station and plot it on the Operations Room map

A WAAF member looks down the sights of a gun-mounted cine-camera, used to capture combat footage

A WAAF armourer carrying ammunition ready to be loaded into an RAF bomber

Members of the WAAF pictured with aircraft machine guns at RAF Pembrey in Carmarthenshire, April 1942

The British military, however, would call upon women once more in the Second World War. The Auxiliary Territorial Service (ATS) was formed in September 1938, designed to release men for service at the battlefront with the British Army. Men were also needed for service at sea, and in April 1939 the Women's Royal Naval Service (WRNS) was formed to substitute men in the Royal Navy in shore positions. In June 1939, the WAAF was established to supply its 'parent' service, the RAF, with women to substitute for men wherever possible.

RAF companies affiliated to RAF squadrons had existed within the ATS since its creation in 1938, but in May 1939 the British government made the decision to create a separate women's air service, and the WAAF was born a month later. Mobilised on 28 August 1939, the WAAF recruited tens of thousands of women to its ranks. At first women like Eileen volunteered to join the services.

The manpower crisis inevitably worsened as war went on, and in December 1941 the government made the decision to conscript women for war service as well as men. British women could choose between agricultural work with the Women's Land Army (WLA), industrial work in factories, or service with the ATS, WRNS or WAAF.

Morwenna Williams was working as a store supervisor at Woolworths in Conway, North Wales, when she received her call-up papers. "I was 19 at the time," she says, "and we all had to do something for our country." Her youngest sister, Glenys, was working on the land picking produce, and her other sister Mair had chosen to work in a factory. Morwenna was not attracted by either of these options, and initially put off by the colour of the uniform worn by the ATS, she chose the blue uniform of the WAAF. By July 1943 the WAAF was at its peak strength, with 182,000 women from 48 nations serving within it.

THE WOMEN'S AUXILIARY AIR FORCE

With a separate ranking system to that of the RAF and paying its personnel two-thirds of the salary the men received, the WAAF was initially a point of humour and even perceived silliness in British society. Over the course of the war, however, its women would prove themselves indispensable to the RAF and, in turn, the British and

Allied war efforts. Defying the expectations of their male colleagues, the society around them and the government that had begrudgingly agreed to the creation of their service, the women of the WAAF battled daily to overcome homesickness, difficult and dangerous conditions, fear, worry and loss, carrying out vitally important work.

Initially the roles that women were asked to fill in the wartime services were akin to those they would normally undertake as civilians in peacetime and, save for the fact that they were wearing military uniforms, there was no great departure with norm and tradition. Morwenna worked as a waitress in the Officer's Mess, and other WAAF took over from men as cooks, storekeepers, administrators and clerical staff. These women were absolutely vital to keeping the RAF flying, and their contribution to the British war effort is unquestionably valuable.

There is, however, another group of WAAF whose work was also vital to victory – a group who are commonly missing from the story as it is told today. As the war went on and more and more men were needed for frontline service on land, at sea and in the air, the military roles available to women widened in range. They came to include mechanics, anti-aircraft artillery personnel, depth-charge primers, barrage balloon handlers and all manner of work that had previously been thought unsuitable and inappropriate for women. Some of this work involved the collection and dissemination of intelligence, and WAAF working in this capacity have inevitably remained in the shadows for decades.

SPECIAL DUTIES

Not long before her interview at the Air Ministry, Eileen bumped into an old school friend wearing a WAAF uniform. "She would not tell me what she did," Eileen recalls. Revealing nothing about her work, Eileen's friend said: "When the recruiting officer asks you what branch you want to go in, she is sure to say – cook or driver! Tell her neither, just say you want to be a clerk special duties." At her interview Eileen did just that, and the WAAF officer obliged, noting her aptitude in maths.

"IF A WOMAN WAS NOTICED TO HAVE SKILLS OR EXPERIENCE THAT MIGHT PROVE USEFUL IN INTELLIGENCE AND COMMUNICATIONS, SHE WAS SNAPPED UP FOR THE WORK"

It was often at the interview stage that women with the potential to be adept at intelligence work were spotted. It wasn't very common for girls and young women in the early 1940s to be educated in maths and the sciences, or to have experience in engineering, for instance. If a woman was noticed to have skills or experience that might prove useful in intelligence and communications, she was snapped up for the work.

After passing a series of medical examinations and interviews, women selected for service with the WAAF underwent basic training. Many of them away from home for the first time in their lives, they arrived at military camps and bases all over the country, where they slept in long Nissen huts with wooden floors, straw pillows and freezing cold ablutions areas.

They were issued with military uniforms – three of everything – including, as Morwenna has never forgotten, "horrible, scratchy elasticated knickers" and "stockings with seams that had to be straight at all times". In the case of WAAF involved in intelligence work, basic training was usually followed by specialist training. For example, Kathleen Godfrey was sent, without any explanation of what she would be doing, to a training camp on Salisbury Plain in Wiltshire.

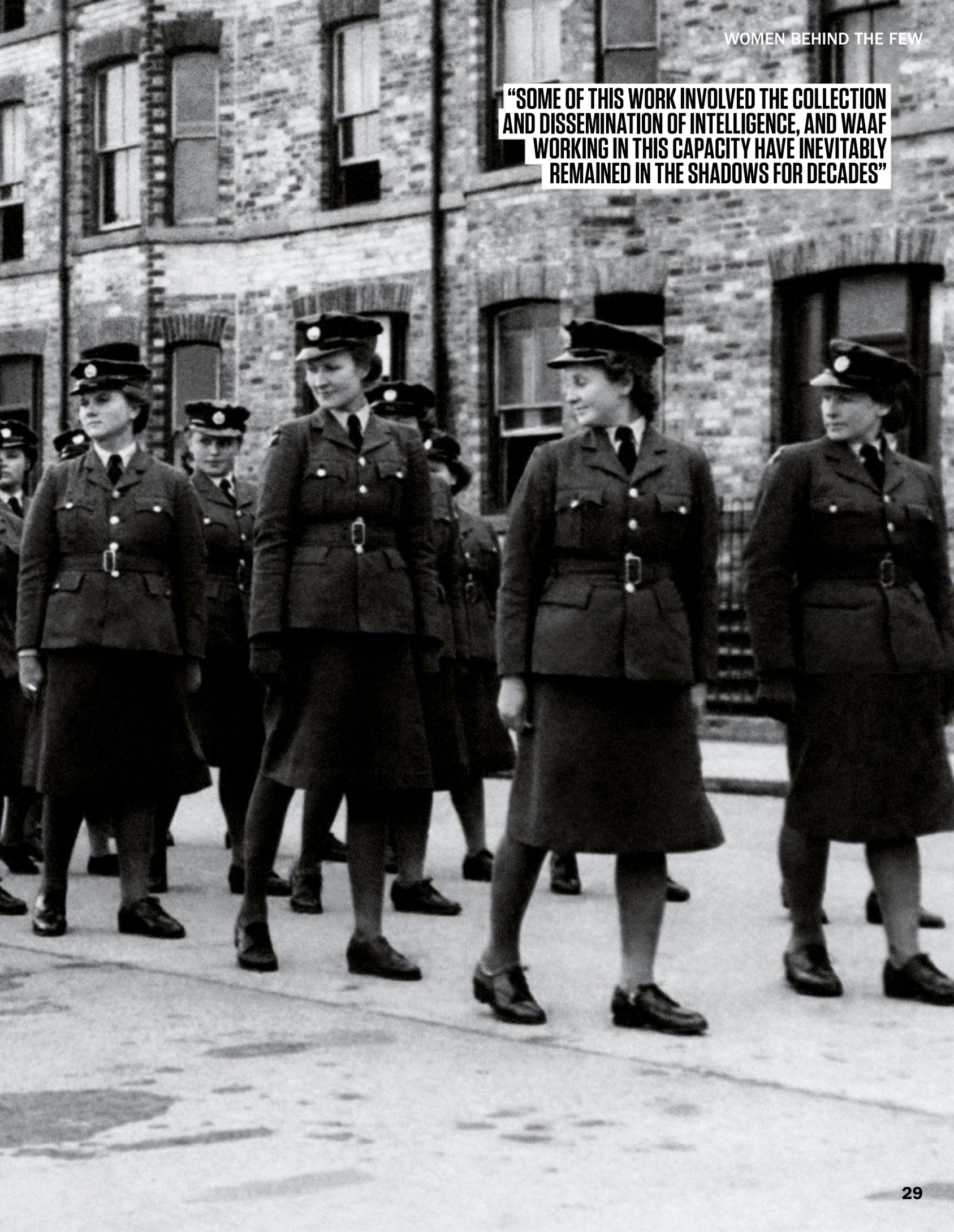
One of 70 airwomen in a camp of 7,000 airmen, Kathleen was asked to swear an oath of secrecy. It was then that she discovered the astonishing truth about radar – radio direction finding, also known as radio detection and ranging. Developed in the 1930s by Scottish physicist Robert Watson-Watt, radar technology transmitted a radio signal that was reflected back from an aircraft like an echo. The echo was then received by a radar operator, who could analyse it to determine the number of aircraft, their altitude, and their bearing.

Mona Friedlander, founder of the Air Transport Auxiliary (womens section) prepares for a parachute jump

Women in the WAAF carried out vital work in Signals Intelligence

A 1941 recruitment poster for the WAAF designed by Jonathan Foss

A WAAF Corporal drills members of the Polish section of the WAAF. The English and Polish command 'Left Turn!' is shown on a blackboard. They are part of 600 Polish volunteers who arrived in Britain, circa 1942



"SOME OF THIS WORK INVOLVED THE COLLECTION AND DISSEMINATION OF INTELLIGENCE, AND WAAF WORKING IN THIS CAPACITY HAVE INEVITABLY REMAINED IN THE SHADOWS FOR DECADES"

The commander-in-chief of RAF Fighter Command, Air Chief Marshal Sir Hugh Dowding, recognised how important radar was, and how crucial it would be for the numerically inferior RAF to be able to know where its Luftwaffe enemy would be at any given time, in what strength, and with what possible intentions.

In order to effectively deploy and use this technology, a sophisticated air defence network known as the Dowding System was developed to integrate radar and the intelligence it would yield into the RAF's overall strategy. The Dowding System was crucial to Britain's victory in the Battle of Britain. When Kathleen's father – Admiral John Godfrey, the director of Naval Intelligence – visited her and asked her what she was up to, Kathleen replied: "I can't possibly tell you, father. It's a secret." He was, she reports, delighted. After six weeks of specialist training, Kathleen was sent to work at a radar station on the cliffs of the Isle of Wight, in a facility facing across the channel towards France. She worked underground, sleeping under the table if it was a quiet night. Sometimes she'd be ordered to go outside and visually identify German aircraft overhead – "so we'd pop up to the surface", she remembers, "with the drone of engines above us to see what we could see".

PLOTTING ALLIED VICTORY

Eileen also worked in Britain's secret radar network, at 10 Group Fighter Command in the Filter Room. Once information had been gleaned by a radar operator at a coastal radar installation, the raw, scientific information needed to undergo a process known as 'filtering'.

In a Filter Room it would be checked and analysed, and presented in a format that was much easier and quicker to understand. A 'track' of information was produced, showing whether the signal was friendly or hostile, the number of the raid, the number of aircraft in it and its altitude. This information needed to be 'plotted' – depicted clearly on a large table-map in the Operations Room – so that the RAF had a real-time picture of what was happening in the air at any given moment during the Battle of Britain.

"ADMIRAL JOHN GODFREY, THE DIRECTOR OF NAVAL INTELLIGENCE, VISITED HER AND ASKED HER WHAT SHE WAS UP TO. KATHLEEN REPLIED: 'I CAN'T POSSIBLY TELL YOU, FATHER. IT'S A SECRET.' HE WAS, SHE REPORTS, DELIGHTED"

Much of the plotting in Filter and Operations Rooms was carried out by WAAFs. Eileen and her colleagues provided virtually instant information to the RAF on an air situation that was constantly changing. The work was fast-paced and required the women to be able to work calmly and efficiently under the immense pressure and weight of responsibility – lives were at stake, and they knew it. Plotting WAAFs were actually given the same psychological tests as prospective fighter pilots before being assigned to the role. The RAF worried that women might crumble under the pressure but, on the contrary, they seem to have risen to the challenge.

In some cases, the women even continued to plot in the knowledge that loved ones' lives were at stake. Petrea Winterbotham remembers her brother being out on a bombing raid one night when she was on duty in the Filter Room. Rather than becoming hysterical with worry, Petrea was totally intent on being "utterly accurate" in her work, knowing that this was the only thing that could possibly help her brother and his crew. Plotter Jean Hilda Mills recalls the "electric atmosphere" during the Battle of Britain, "rooting for our boys to come back". The WAAF in the Dowding System and the radar network worked tirelessly behind the 'Few', the fighter pilots of the RAF, to provide them with vital intelligence that enabled them to protect Britain and prevent a German invasion in the summer of 1940.

The Second World War, more than any other war that had come before it, was dominated by the

Princess Alice, Duchess of Gloucester (pictured here in 1940) was chief commandant of the WAAF

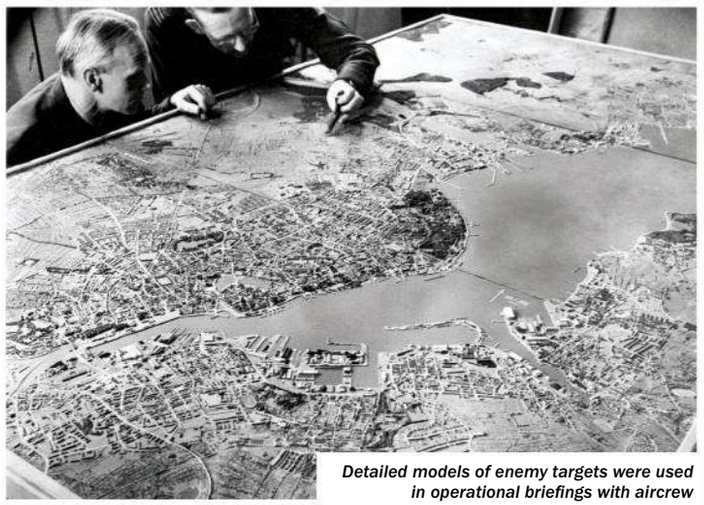
WAAF plotters at work in an RAF Operations Room

The Women of World War II memorial in London on the 70th Anniversary of VE Day

Members of the Women's Royal Naval Service, 1941

WAR MODELS

WAAF members assisted with some of the RAF's most secretive and audacious missions



Detailed models of enemy targets were used in operational briefings with aircrew

WAAF personnel worked in various capacities to keep the RAF supplied with intelligence that would enable it to concentrate its resources and operate as effectively as possible. There was different kinds of intelligence, and each had to be evaluated to determine how reliable it was – after all, what use is information if it is dubious in origin and cannot be relied upon? Some WAAF functioned as the secret eyes and ears of the RAF, in intelligence gathering that was deemed highly reliable: photographic reconnaissance and interpretation, and signals interception.

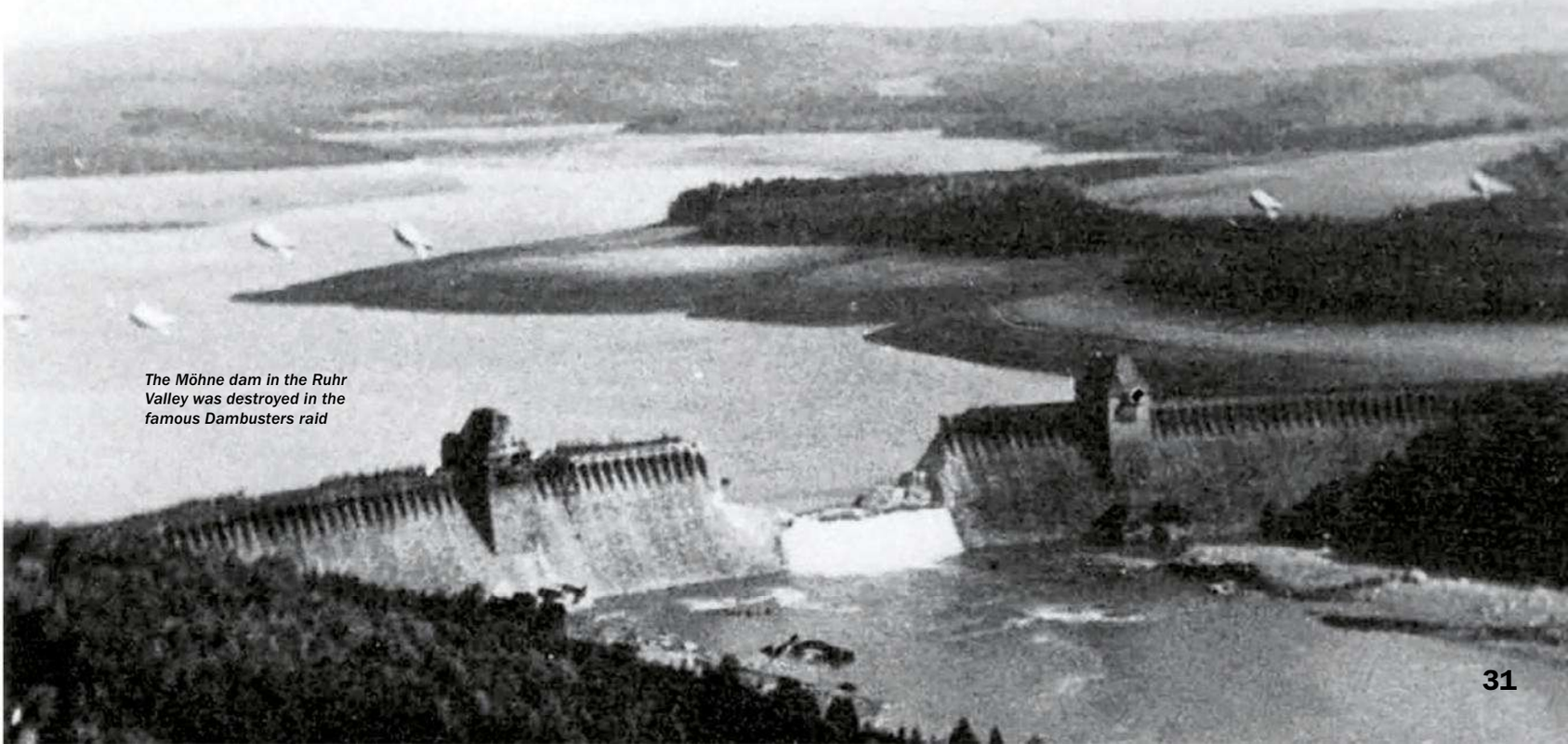
Aerial reconnaissance was carried out by Allied pilots, and over the course of the war millions of photographs were taken over enemy-occupied territory. These pictures were often developed by WAAFs, before being deposited at RAF Medmenham, the home of Allied photographic interpretation efforts in Britain. The work at Medmenham was divided into specialist sections. One section, for instance, would focus on aircraft, while another might be looking at airfields. The women working there needed to possess the ability to memorise visual content, sketch, spot details, question anything out of the ordinary and, as WAAF Diana Cussons stated, they were required to become "curious in the unusual".

Within 24 hours of a reconnaissance flight landing, a detailed intelligence report had been issued and sent to all relevant Allied operational commands and intelligence organisations. Working in conditions of extreme secrecy, WAAF at Medmenham supplied the RAF with intelligence on a huge array of subjects, including enemy troop movements, airfields, anti-aircraft artillery, technological installations, shipping and U-boat production and movements, military sites, aircraft industry, and potential industrial bombing targets. They also worked with the Special Operations Executive and the Secret Intelligence Service (MI6) to locate suitable areas for landings, parachute drops and pick-ups for agents and materials that were being sent to resistance movements in occupied countries. Some WAAFs were responsible for constructing models used for operational briefings with aircrew. This could take eight to nine months and included details on topography, seasonal changes to the landscape and enemy defences.

Kathleen Mary Franck was one of the WAAFs involved in producing a scale model of the Ruhr Valley dams, used to brief the crew of 617 Squadron, Bomber Command – better known as the Dambusters. She used linoleum to construct tiny trees and buildings, consulting maps and surveillance photographs and making sure that the scale was correct. Kathleen was one of the few people in Britain who knew that the Dambusters were going to carry out the bombing raid on the dams. Her colleague Jeanne Adams was given the post-raid surveillance photographs, which showed water gushing from the Möhne dam – an image she never forgot.

Models were also constructed from photographs for attacks on the German battleship Tirpitz, Operation Torch (the North African landings) and the Allied invasion of Europe – D-Day. Photography was one of the most useful sources of information in planning the invasion, yielding intelligence on things like German anti-invasion defences, sea depths and tide levels, beach gravel and sand (which would affect vehicle and tank manoeuvrability), transport routes, ports and harbours.

The WAAF constructed maps and models, using over 8.5 million photographs for this single operation. Mary Harrison constructed models for the D-Day landings, which she says were "not the most exciting" because the areas she was modelling were very flat, but the attention to detail had to be exact – any detail could help troops to identify where they were and the route they needed to take into occupied territory upon landing.



The Möhne dam in the Ruhr Valley was destroyed in the famous Dambusters raid

WAAF teleprinter operators Sergeant Joan E Mortimer, Flight Officer Elspeth C Henderson and Sergeant Helen E Turner were awarded the Military Medal for gallantry for continuing their work during an air raid on the Biggin Hill base on 1 September 1940

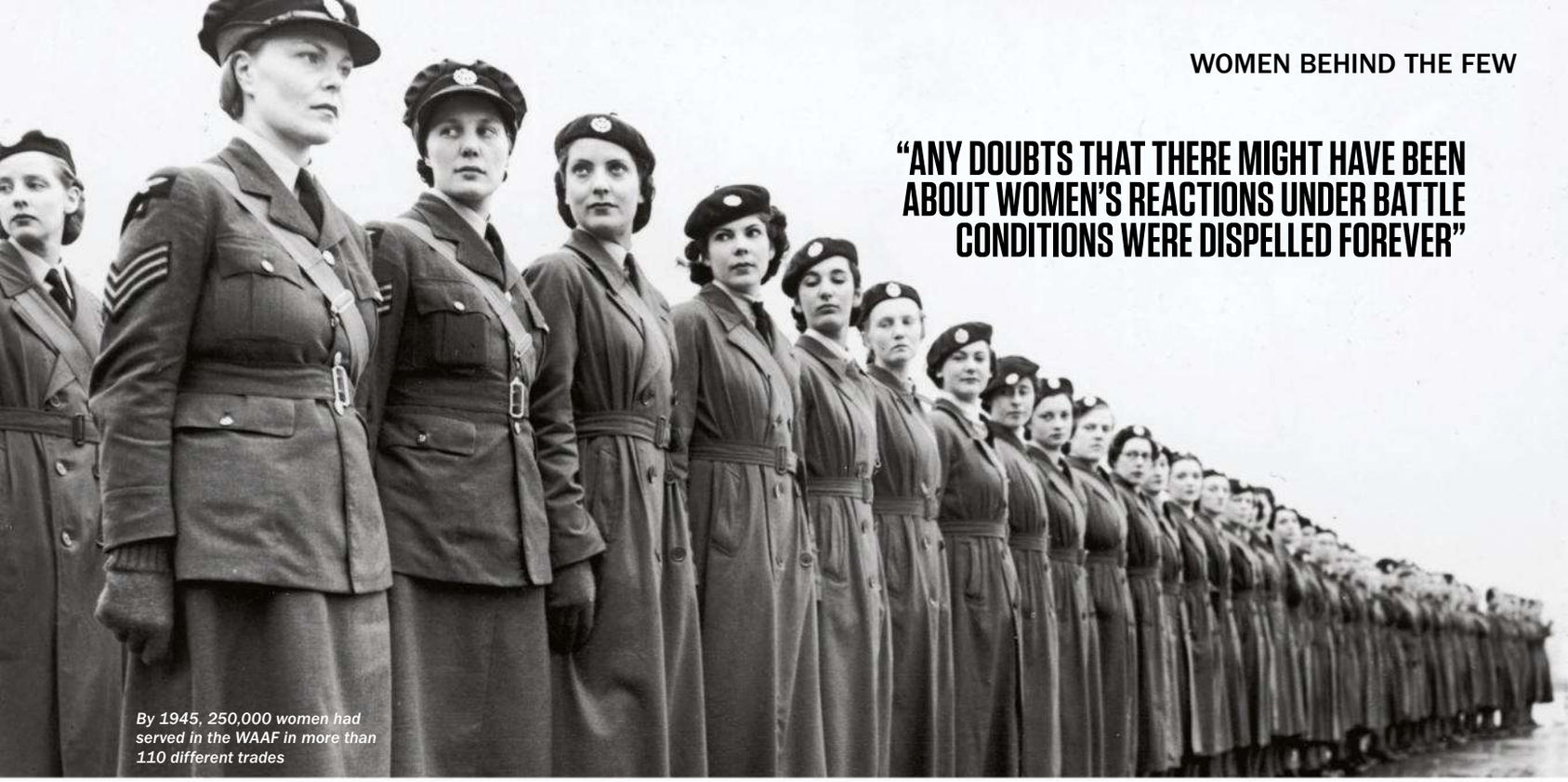
interception of enemy communications. Technological developments in communications meant that by the outbreak of war, radio communications were being increasingly relied upon by both sides to transmit important information. Signals intelligence, or 'Sigint', as it came to be known, included both the actual interception of enemy signals and the deciphering and decoding of these signals when they were not in plain speech or text. Today, when we think of wartime Sigint, we naturally think of the breaking of the German Enigma by the famous mathematicians and codebreakers at Bletchley Park, the home of the Government Code and Cypher School.

In order to have any code to break, however, Bletchley relied upon the Y Service, a network of over 600 signals intelligence collection or receiving sites. The Y Service was made up of different branches, each operated by a specific military service or agency, and it was these people who carried out the actual interception of enemy signals. The RAF's Y Service section was heavily staffed by members of the WAAF. These WAAF needed to be able to speak fluent German, preferably with knowledge of German slang, which could be used by Luftwaffe pilots in their communications. Recruits were given three months' training in Morse code at the London Radio School, and sworn to total secrecy they could tell no-one about their work. Once on duty at a Y station, a WAAF would sit with headphones on, waiting for German ships, aircraft or ground personnel to start making a radio transmission. They would tune into the transmission and write down what was being said in as much detail as possible. Occasionally WAAFs even heard Panzer divisions talking to one another on the continent. The recorded messages were then taken to the Air Ministry and to Bletchley Park for analysis. The work could be difficult and tedious, often involving sitting through hours of background noise and interference caused by bad weather. Any missing words or letters in the message could, the WAAF knew, be the difference between life and death for Allied military personnel and civilians. It could be particularly alarming for a WAAF to hear that a German ship or aircraft had spotted a British vessel and was identifying it as a target. Dalma Flanders remembers being horribly worried when she could hear RAF pilots reporting that they had been shot and wounded and were trying to land their aircraft as quickly and safely as they could.

Aileen Clayton was aware that there were many who expected the WAAF to crack under the emotional strain of this work. However, as she points out, "any doubts that there might have been about women's reactions under battle conditions were dispelled forever". Aileen recalls one particularly violent day when there was more bombing than usual, and one of the men in her unit became hysterical. Aileen was the senior WAAF on duty, and worried that if the men began to lose composure then everyone would. Taking a risk, Aileen slapped the man, who was senior to her in rank, across the face. It had the desired effect and calm was reinstated.

Y Service WAAF were some of the first people to know that major events were taking place. In June 1941, for instance, Vera Ines Morley Elkan was monitoring signals when she realised that she was listening to Panzers talking

Two WAAF members test reconnaissance cameras, recently repaired and ready to be taken on sorties once more



“ANY DOUBTS THAT THERE MIGHT HAVE BEEN ABOUT WOMEN’S REACTIONS UNDER BATTLE CONDITIONS WERE DISPELLED FOREVER”

By 1945, 250,000 women had served in the WAAF in more than 110 different trades

to one another. Their conversation appeared to indicate an intended attack, mentioning a location in Poland. Vera thought it important and reported it to the Air Ministry, who dismissed it as routine manoeuvres. For three days the Air Ministry ignored Vera’s concerns.

On 22 June Germany launched Operation Barbarossa, its invasion of the Soviet Union, which included an armoured advance from southern Poland. It had been communications pertaining to this attack that Vera had intercepted. Information collected and disseminated by WAAF in the RAF Y Service proved invaluable to the Allies, providing a picture of the Luftwaffe’s order of battle and its capabilities and intentions throughout the war.

AN IMPORTANT LEGACY

Women were recruited into military service in the Second World War to free men for duty overseas and in combat roles. Their contributions, however, extend far beyond simply filling a gap from the safety of a Britain-based non-combat role, and their work was integral in its own right to the British and Allied war efforts and ultimate victory. Hundreds of thousands of women worked to keep the British Army, Royal Navy and RAF fighting, and though some of them have been included in the collective memory of the war, others have remained hidden in the shadows, missing from history.

The wartime work of women in the British military carries an important legacy. By the end of the war, around 250,000 women had served in the ATS. At the height of the war 72,000 women were serving in the WRNS in some 200 shore establishments in Britain and in 50 international locations. By 1945, a quarter-of-a-million women had served in the WAAF in more than 110 different trades, supporting the RAF from locations around the world. At the end of the conflict, the women’s services began to demobilise, and many women left the services. Their vital contributions to the war effort, however, were not easily forgotten, and permanent peacetime women’s forces were proposed and discussed within government.

In 1949, the Women’s Royal Army Corps (WRAC) and the Women’s Royal Air Force (WRAF) were formed as permanent services rather than temporary contingencies. The WRNS remained in existence until 1993, when it was disbanded, and women were integrated into the Royal Navy. As with the Navy, integration of the women’s services into the regular military branches in Britain was slow. In 1952 WRAC ranks were aligned with those of the British Army, but women could not use firearms or attend the Royal Military Academy at Sandhurst for officer training until the 1980s, having their own separate officer training college instead. On 1 April 1994 the WRAF formally merged with the RAF, and Flight Lieutenant Jo Slater became the first female operational pilot. It is important that we remember that in the First and Second World Wars, and every conflict since, women have been present in the British military services making crucial contributions. Some of them, such as the members of the WAAF who worked in the secret world of intelligence, will inevitably remain hidden. We can, and must, remember them. *The Women Behind the Few* is only the beginning and there is much more work to be done.

Images: Alamy, Getty

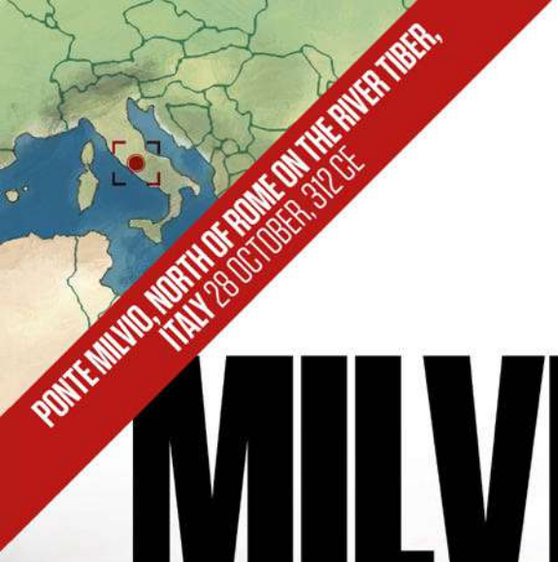
Dr Sarah-Louise Miller researches and writes extensively on women in the Second World War. She specialises in military and intelligence history and is particularly interested in recovering the missing and ‘lost’ elements of women in intelligence work. Sarah received her PhD from the Department of War Studies at King’s College London in 2022, and she is currently a visiting scholar at the Faculty of History, University of Oxford.

Dr Miller’s latest book, *The Women Behind the Few*, explores the Second World War from the perspective of the WAAFs working behind the scenes to collect and disseminate vital intelligence – intelligence that resulted in Allied victory.

In this thrilling book, she brings the women of the force back to life, celebrating their vital wartime contribution to British military intelligence. Hidden behind the Few but vital to their success, WAAFs supplied the RAF with life-saving information. Here, for the first time, is their story. For more information visit:

www.sarah-louisemiller.com

THE WOMEN BEHIND THE FEW BY SARAH-LOUISE MILLER **PUBLISHED** BY BITEBACK **PRICE** £25 (HARDBACK)



PONTE MILVIO, NORTH OF ROME ON THE RIVER TIBER, ITALY 28 OCTOBER, 312 CE

MILVIAN BRIDGE

Rival emperors Constantine and Maxentius fought to establish their supremacy in a battle that would have momentous consequences for the Roman Empire

WORDS **MURRAY DAHM**

In late October 312 CE, the fate of the future of the Roman world was decided near the Pons Milvius, the Milvian Bridge (the modern-day Ponte Milvio, Italy), crossing the River Tiber some three miles (5km) north of Rome on the via Flaminia. The battle was the culmination of the war between rival Roman emperors, Maxentius and Constantine, to see who would dominate the western Roman Empire.

In 293 CE, Emperor Diocletian had introduced a system of two emperors (augusti; singular: augustus) and two junior-emperors (caesares; singular: caesar), to govern what had become an unstable system of one emperor ruling over the entire empire. The previous century had seen a great deal of instability and more than 50 emperors and usurpers. This new system was known as the Tetrarchy and saw the empire split between east and west. The west was governed from Mediolanum (modern-day Milan) and Augusta Treverorum (modern-day Trier, Germany); the east from Nicomedia (modern-day Izmit, Turkey) and Sirmium (modern-day Sremska Mitrovica, near Belgrade, Serbia). The system worked well until 305 CE when Diocletian and his co-emperor, Maximian, retired and the caesares, Galerius and Constantius, were raised to augusti and new caesares were appointed: Maximinus Daza to Galerius and Valerius Severus to Constantius.

Constantius died in York in July 306 CE, and his son, Flavius Valerius Constantius (known as Constantine), was acclaimed augustus by his father's army. Constantius' co-emperor Galerius promoted Severus to augustus as the system dictated. In October that year, the retired emperor Maximian's son, Marcus Aurelius Valerius Maxentius, declared himself augustus (in opposition to Severus). Rivalry and ambition were already putting the Tetrarchy system at risk.

Maxentius had probably expected to succeed his father, but in this he was disappointed – he would, however, prove to be popular with the troops as his father's son. Severus, sent to defeat Maxentius by Galerius, suffered the ignominy of his army deserting to his enemy and he surrendered to Maxentius in 307 CE (he was later murdered). Galerius marched on Rome himself but he, too, was unsuccessful. Both Maxentius and Constantine were therefore recognised as augusti. Both men had had military careers which would prove immensely useful to their claims.

A crisis meeting to avoid further civil war held in Carnuntum (near modern-day Petronell-Carnuntum and Bad Deutsch-Altenburg, Austria) in 308 CE declared that Licinius would be augustus of the west with Constantine as his caesar, Galerius would be augustus of the east with Maximinus continuing as his caesar. Maxentius was declared a usurper. This arrangement lasted no longer than the meeting. Maxentius had seized control of Italy and Africa, and neither Constantine or Maximinus were willing to tolerate (the less-experienced) Licinius being promoted to augustus over them.

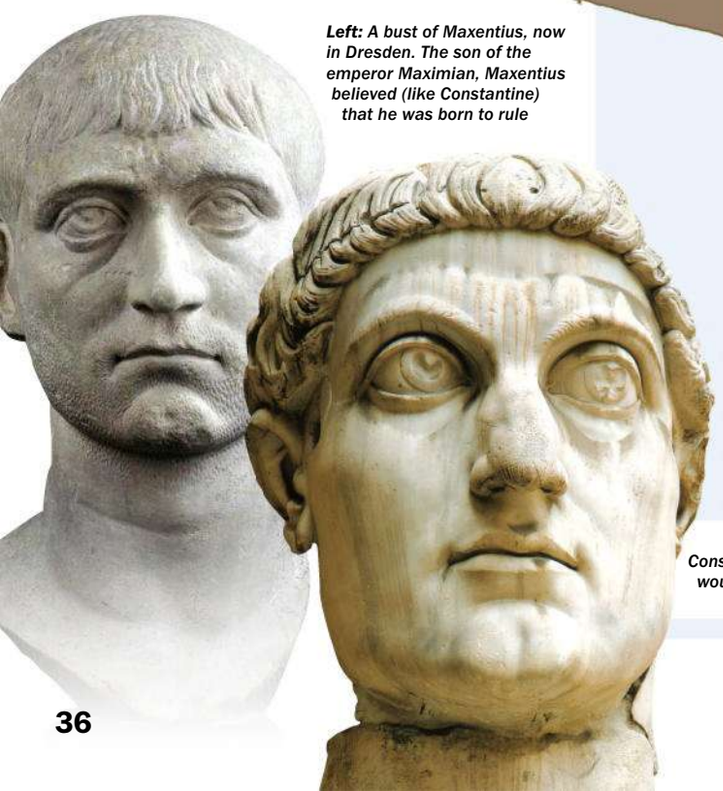
Civil war blossomed. By 309 CE, all four candidates were declared augusti – the retired emperor Maximian (who still held ambitions to be restored to power) was forced to commit suicide in 310 CE. In April 311 CE, Galerius died (of natural causes) and his death saw

The 16th century fresco in the Vatican by Giulio Romano shows Constantine (surrounded by Christian symbols) and Maxentius drowning in the River Tiber

a race to secure his power base. While Licinius and Maximinus competed in the east, in the west, Constantine was free to march on Italy, Maxentius' stronghold. This was despite the fact that the two men were brothers-in-law; Constantine had married Maxentius' sister, Fausta. Constantine's sister, Constantia, was betrothed to Licinius in 311 CE and this may have been, in part, to give Constantine a free hand against Maxentius. Maxentius, in turn, sought support from Maximinus. According to the historian Eutropius, Constantine's reasons for invading were because he sought to re-unite the empire under his sole rule. The territory controlled by Constantine included Britain, Spain, Gaul and Germany; Maxentius controlled Italy and Africa and several of the islands of the western Mediterranean (he had control of the fleets at Misenum and Ravenna).

In late 311 CE and early 312 CE, Constantine was on the Rhine frontier. There, he raised an army of 40,000 men according to a contemporary anonymous panegyric written in 313 CE. Other historians (like Zosimus) make his force much larger, at 98,000 men. It may have seemed that Constantine was preparing for a campaign against the German tribes, but he was, in reality, preparing his army to invade Italy. Maxentius did not take the war to Constantine but awaited his coming, possibly because he also feared attack by Licinius if he moved north. Control of Italy was still a vital propaganda tool and to lose it would be to lose everything. And although it was no longer the capital of the empire, the city of Rome itself was hugely symbolic; controlling it went a long way to justifying claims of imperial power. Maxentius' status as a usurper also helped Constantine wage a just war to oust him from Italy.

In spring 312 CE, Constantine marched his forces south and invaded northern Italy. Awaiting him, Maxentius had raised 100,000 men according to the panegyric. Again, Zosimus makes this figure much larger: 188,000 men. Crossing the Cottian Alps (an unlikely route into Italy from the Rhine and one which therefore took Maxentius by surprise), Constantine took Segusio (modern-day Susa,



***Left:** A bust of Maxentius, now in Dresden. The son of the emperor Maximian, Maxentius believed (like Constantine) that he was born to rule*

***Left:** The colossal head of Constantine from a statue which would originally have been 40ft (12m) tall, now in Rome*

BATTLE OF THE MILVIAN BRIDGE

MILVIAN BRIDGE

TIBER

THE BATTLEFIELD

The battlefield is located on the plain in a turn in the Tiber northeast of the Milvian Bridge, on the plain beyond the Tor di Quinto. Constantine has camped here and Maxentius has brought his army from Rome to face him. En route, he has made some kind of device by which the Milvian Bridge can be collapsed at his command – his army has seen this and may have interpreted it as the bridge being dismantled.

01 OPENING MOVE

The battle opens with the charge of Constantine leading his cavalry, breaking through and routing the cavalry of the Maxentian left wing. These flee (as intended?) back over the Milvian Bridge.

02 MAXENTIUS STANDS FIRM

On the Maxentian right wing, Maxentius and his guard cavalry stand firm against the enemy charge.

03 THE INFANTRY ENGAGE

At the signal, the infantry of Constantine advance and fight – outnumbered almost three-to-one in the centre. A fierce engagement ensues.

OPPOSING FORCES

FLAVIUS VALERIUS CONSTANTIUS (CONSTANTINE)	VS	MARCUS AURELIUS VALERIUS MAXENTIUS
ARMY 40,000 (anonymous panegyric)		**ARMY** 100,000 (anonymous panegyric)
INFANTRY 35,100 (panegyric) 90,000 (Zosimus)		**INFANTRY** 90,500 (panegyric) 170,000 (Zosimus
Legionary detachments and auxilia		Praetorians, legionaries, auxiliaries, 80,000 levies from Italy and Sicily and 40,000 from North Africa
CAVALRY 8,000 (Zosimus) (proportionately 4,900 of the panegyric's total figure)		**CAVALRY** 18,000 (Zosimus) (proportionately 9,500 of the panegyric's total figure)
vexillationes and numeri		vexillationes, numeri and guard cavalry

DEPLOYMENT

Using the smaller numbers of the anonymous panegyric but the proportions of Zosimus (where the cavalry are approximately 10-12 percent of the army total), Constantine (A) has 35,100 infantry and 4,900 cavalry. The infantry are drawn up in the centre and the cavalry, split into two equal divisions (of 2,450 men each) on the wings. Constantine himself (C) is stationed on the right wing. Maxentius (B) has 90,500 infantry drawn up in a single block as long as it is wide. His 9,500 cavalry are likewise in two equal divisions on each wing (of 4,750 men each). Maxentius himself (M) is stationed on the right wing with his bodyguard cavalry.

06 SLAUGHTER ON THE RIVERBANK

The remainder of Maxentius' army is trapped on the far bank of the Tiber and there they are cut down by the pursuing Constantinian army.

05 DISASTER

At the bridge, Maxentius' bodyguard cavalry cross but it collapses under their weight. Maxentius and his cavalry are drowned.

04 ROUT OR RUSE

The bodyguard cavalry of Maxentius give way (as intended?) and make for the bridge. This 'rout' is followed by the Maxentian infantry also retreating towards the bridge. Constantine's forces pursue.

Map illustration: Rocío Espín

The modern-day Milvian Bridge, a scene of fighting in many subsequent wars near Rome, including the wars for Italian independence in the 19th century

A much later artistic study of fighting at Milvian Bridge, with Maxentius' forces being crushed by Constantine's cavalry

Italy), claiming he was liberating the city from the tyranny of Maxentius. Maxentius' main force was in the east, at Verona. Constantine marched on Augusta Taurinorum (modern-day Turin) and then Verona, and defeated two armies commanded by Maxentius' subordinates. Constantine showed himself a brilliant strategist and he inspired his men leading from the front. At Turin, he completely destroyed Maxentius' heaviest cavalry.

There were other Maxentian strongholds in the north (such as Aquileia) but Constantine quickly organised his troops to march on his ultimate destination, Rome. This is the picture in the (admittedly biased and pro-Constantine) sources. First invading in spring, however, the only secure dates for the campaign are the Battle of the Milvian Bridge at the end of October. This leaves plenty of time for sieges and marches which must have taken considerable time. It was also not in Constantine's interests to leave a Maxentian stronghold untaken in his rear and along his line of possible retreat.

Constantine marched from Venetia down towards Rome, crossing the Apennines using the via Flaminia, the direct route. Towns needed to be taken on the route and there is evidence of some resistance although it was, seemingly, insubstantial. There is reason to believe it was not a walk-over, however, and some towns may have delayed the march or caused setbacks to Constantine's advance. Nonetheless, Constantine reached the area of the Milvian Bridge, only three miles (5km) from Rome, on 27 October.

The sources we have for the battle are frustratingly brief even though there are quite a few of them. They also contradict one another. The surviving sources are also from a variety of historical traditions, each of which takes a different view of the battle. This, in itself, is interesting but it makes diving into depth on the battle difficult. First, we have the anonymous panegryicist writing soon after the battle, in 313 CE, but his account is couched in terms of the highest praise for Constantine. The Christian writers Lactantius (writing in 314 CE or 315 CE) and Eusebius (also writing in 315 CE) emphasise the role of Christians and their God in Constantine's victory. We also have other pagan historians and orators who offer a different picture again. Nonetheless, it is possible to reconstruct a plausible account by using a combination of these works. Christian writers emphasised the supposed Christian element to the battle – that Constantine dreamed that he should look for the 'heavenly sign' of God on his soldiers' shields (this was interpreted as the Chi-Rho of Christian soldiers) or that he had a vison of the cross and subsequently created the Chi-Rho battle standard, the labarum (Eusebius' version of the vision in the *Life of Constantine*).

These events are highly unlikely – in an empire that was still officially pagan, Christian soldiers would not have claimed responsibility for victory in any tangible or official way. The vast majority of Constantine's army in 312 CE would have been pagan and to attempt to lessen their responsibility for the victory would have been folly, not to mention dangerous. After the death of Constantine and his death-bed baptism in 337 CE, however, Christians could claim responsibility for all manner of historical occurrences. In Lactantius and Eusebius we see that Christian writers could not agree on how this Christian influence manifested itself. The biggest issue with Eusebius' account, however, is that he has Constantine already a Christian himself in 312 CE, which he was not.

Having awaited Constantine's march until October, Maxentius chose this late moment to leave Rome and face Constantine in open battle. This is, in a way, inexplicable and we are told he was drawn out by God (by Christian writers), by a 'hostile divinity' (by pagan writers) or by the interpretation of an oracle. It is also possible that he saw an opportunity to destroy Constantine – a combination of these factors is also a possibility. Rome had withstood Galerius' attempts to take it by siege so Maxentius should have been safe to stay there and see out Constantine's siege. Instead, Maxentius marched his army out to meet Constantine. According to the anonymous panegyricist, Maxentius selected the battlefield near the Milvian bridge. It had several disadvantages. His men would fight with the river at their backs, so repositioning and retreat were nigh on impossible. The Christian orator Lactantius, who had been the tutor to Constantine's son, Crispus, wrote his

account in Nicomedia in 314/5 CE in his *De mortibus persecutorum* (*On the deaths of the Persecutors*). Although not an eyewitness, he may have nonetheless had access to official documents regarding the battle. According to Lactantius, Maxentius stayed in Rome because he had consulted a pagan oracle to be told that he would be killed if he went outside the gates (why he then changed his mind is unclear but there were other oracles to come). The battle would also be fought on the sixth anniversary of Maxentius' usurpation in 306 CE: 28 October.

Lactantius records that Maxentius' forces outnumbered Constantine's – he had his own troops, those of Severus, and he had levied more in Italy and Africa. Lactantius maintains that Maxentius' troops still held the advantage despite Constantine's victories up to that point. Perhaps Maxentius' forces had achieved a success against Constantine, delaying his advance. This would be something the panegyrics would (understandably) not record, and it also explains, perhaps, why Maxentius would leave the security of the city confident of victory.

In Lactantius, Maxentius was not with his army but remained in Rome celebrating the anniversary of his accession. This last detail is highly unlikely. Another oracle is now mentioned: Maxentius (in Rome) consulted the *Sibylline Books* to be told that "on the same day the enemy of the Romans should perish" (*De mortibus persecutorum 44*). Whether this, in fact, should be combined with the earlier oracular consultation is unclear, but probable. Receiving this oracle, Maxentius rushed to join his army. This picture is dramatic but unlikely – the oracle was probably the one he received earlier and he was already with the army. This oracle is also recorded by the sixth century historian Zosimus. He tells us that Maxentius, consulting the *Sibylline Books*, was told that "anyone harming the Romans would die a horrible death"; he interpreted this to mean, since he was defending Rome, Constantine was intending to harm it.

Although he is the latest source, Zosimus used contemporary and close to contemporary sources which do not themselves survive. He can therefore be used to add useful detail even though he seems, at first, to be at major odds with our other, earlier, sources. Zosimus tells us, for instance, that Constantine had 90,000 infantry (from Britain, Gaul and Germany) and 8,000 cavalry; Maxentius 80,000 Italians and Tyrrhenian, 40,000 Carthaginians (he means men from North Africa), and Sicilians: in total 170,000 infantry and 18,000 cavalry.

These numbers are too large, although the proportions may be of use – the same proportion of cavalry to infantry gives us 4,900 cavalry for Constantine and 9,500 for Maxentius using the smaller numbers in the anonymous panegyric. Another contemporary rhetorician, Nazarinus, wrote two speeches on the battle in 321 CE. The first (and probably most detailed) is lost but the second gives useful detail nonetheless. Nazarinus tells us that Maxentius outnumbered Constantine and that his forces were so vast (a multitude which stretched as far as the eye could see) that they were drawn up in a formation as deep as it was wide, near the Tiber, actually with the river lapping at the heels of the last ranks. This accords with Lactantius' point that the army saw the bridge being pulled down. He tells us that the army of Maxentius also had auxiliaries. Frustratingly, he passes over Constantine's battle array since he has told us of it in his previous (lost) speech, the day before. He does, however, tell us that Constantine was in the place of most difficulty – perhaps with the cavalry as he was earlier in the north. Nazarinus points out that by leading by example, Constantine was with the cavalry.

The choice of the battlefield close to the Milvian Bridge has perplexed historians – at first glance it would seem to be a noose around Maxentius' neck. One ancient source, Aurelius Victor, does not even mention it – he claims the battle was fought at Saxa Rubra (meaning 'red rocks', modern Prima Porta), the ninth milestone (14.5km) from Rome (beyond

"THE CHOICE OF THE BATTLEFIELD CLOSE TO THE MILVIAN BRIDGE HAS PERPLEXED HISTORIANS – AT FIRST GLANCE IT WOULD SEEM TO BE A NOOSE AROUND MAXENTIUS' NECK"

One of the most impressive remains in the Roman Forum is the Basilica of Maxentius, actually completed by Constantine

the bridge on the via Flaminia). He is the only source to mention this as the battle site. All the others name the Milvian Bridge as integral to the battle and we should trust them.

The bridge itself seems to have been a central part of Maxentius' battle plan, although this is a factor missing in several ancient accounts. Nazarinus criticises the choice of battlefield because it cut off Maxentius' escape and made "dying a necessity, as he had no hope of winning". This fatalist version is not necessary – if Maxentius had made it back to Rome he could have withstood a siege there (Constantine had been unable to take Verona by siege).

Lactantius tells us that after Maxentius had crossed the bridge, it was cut down behind him. Stranding himself on the northern bank of the Tiber might seem senseless – his own return was blocked – but if he was defeated, Constantine too could not continue his advance (and Maxentius could escape to withstand a siege). However, Lactantius also states that the bridge was taken down within sight of the army so that they would know they had to fight.

The bishop of Caesarea, Eusebius, talks not of the bridge itself but of a bridge of boats, even claiming Constantine told him this detail himself (which battle he was talking of is not altogether clear, however). Eusebius wrote two accounts of the battle. The first, probably written in 315 CE in his *Ecclesiastical History* was also the basis of a much later version in his *Life of Constantine*. He tells us that Constantine was aided by God and won three victories before advancing to the Milvian Bridge. His account does give us useful detail. He tells us that Maxentius had (Praetorian) guardsmen and regular soldiers and used a bridge of boats to cross the river (perhaps suggesting the Milvian Bridge itself was already demolished). He tells us that Maxentius retreated, turning his back on the "God-sent power that was with Constantine", and headed back to the bridge of boats surrounded by his bodyguards. The bridge of boats subsequently collapsed and the men drowned, including Maxentius.

Other accounts, however, complicate this use of the bridge and make it part of a cunning ruse on the part of Maxentius to try to trap and destroy Constantine. The bridge of boats is also mentioned in Eusebius' *Life of Constantine* implying it was part of a stratagem to trap Constantine while he was pursuing an apparently fleeing Maxentius. This implies that Maxentius always intended to retreat from the battlefield in apparent flight – a factor few have considered in reconstructing the battle. Aurelius Victor has Maxentius defeated at Saxa Rubra and retreating to the Milvian Bridge. There, he was caught in his own ambush, a manoeuvre he had prepared for Constantine (this might tie with the bridge of boats collapsing in Eusebius). The anonymous *Epitome de Caesaribus* tells us Maxentius drowned from his collapsing bridge en route to face Constantine, not fleeing from battle with him. Zosimus too talks of a bridge built across the Tiber as a trap to catch a pursuing Constantine and goes into some detail on how the trap would be sprung.

Maxentius' army was therefore deployed to face Constantine's on the northern bank of the Tiber across the Milvian Bridge. Zosimus tells us that the battlefield was a broad plain suitable for cavalry. Historian Ross Cowan has identified the field as the plain beyond the Tor di Quinto. Maxentius had almost twice as many cavalry as Constantine and almost three-times as many infantry. Constantine's advantage was that his army had marched from victory to victory and were confident in their own fortune and in their commander, who once again took up position in the front ranks where danger would be closest.

Zosimus' detail can be used to reconstruct the battle best: "Constantine sent in his horse which attacked and routed the opposing cavalry." Nazarinus tells us Constantine was the first to fall on the enemy line, implying a cavalry charge, and he alone broke into the enemy ranks (perhaps an exaggeration). The infantry were then given the signal and they too attacked. According to Zosimus, a fierce battle ensued. Lactantius claims that both sides formed their battle lines and fought to a standstill, neither side giving ground. Many were killed but Maxentius' (guard) cavalry stood firm; when they fled, however, the army gave

"MAXENTIUS RETREATED, TURNING HIS BACK ON THE 'GOD-SENT POWER THAT WAS WITH CONSTANTINE'"

Another depiction of Maxentius' troops being cast into the Tiber during the battle

A late-Roman cavalryman featuring a Chi Rho Christian symbol on his shield

***Above:** The Arch of Constantine in the Roman Forum was erected in 315 CE and depicts Constantine's victories, including Verona and the Milvian Bridge*

The Battle of Milvian Bridge is depicted on the Arch of Constantine. It's unusual in that it celebrates civil conflict, but very useful for its details of uniform and equipment

way, Maxentius at their head. The anonymous panegyricist also records that (only) one unit of Maxentius' soldiers stood their ground. This was, no doubt part of the plan – Constantine was meant to pursue and be destroyed by doing so. Maxentius no doubt knew that Constantine would lead the way in pursuit and this made him vulnerable.

Unfortunately, Maxentius' plan came completely unstuck. Zosimus tells that the timbers of the (modified) bridge could not hold the weight of the retreating cavalry and gave way, drowning Maxentius and his bodyguard. We have chosen to interpret that Maxentius modified the Milvian Bridge itself rather than that he constructed a second bridge of boats; this modification of the existing bridge can explain all the aspects of the battle where the bridge is concerned.

According to the anonymous panegyricist, Maxentius' army fled at the first charge of Constantine's army. The retreat across a single narrow bridge meant the Maxentian forces could be cut down on the northern bank of the river as they crowded the bridge trying to cross. Several jumped into the river and attempted to swim across. Several accounts talk of the defeated, retreating Maxentians being trapped crowding about the bridge. If they had seen it being demolished they would surely not have headed back towards it. If, however, it was meant to be brought down at the time of Maxentius' choosing and the retreating men were all intended to lure Constantine on to the bridge, their heading towards it makes sense. So too does the fact that they were trapped when it collapsed early and stranded them on the wrong side of the river. This would explain the milling crowds of the retreat (they might not have known the bridge had collapsed early) and also why men swam to cross the river. In the anonymous panegyric, Maxentius himself attempted to ford the river on his horse but he drowned in the attempt. Nazarinus' description is the most evocative. He calls the banks of the Tiber as an "unbroken line of slaughter" and describes the Tiber filled with bodies as the enemy Maxentius shamefully fled and was drowned. Nazarinus, too, however, seems not to have recognised Maxentius' apparent flight as part of his ill-fated battle plan.

In Lactantius, Maxentius joined the battle after the fighting had already started and it was the 'Hand of God' on the battle line which caused the Maxentians to flee (but still towards the bridge). Maxentius fled, too, and was drowned crossing the river. A decisive charge at some point in the battle, rather than the initial charge in the panegyric, is much more likely.

Constantine's immediate reward for victory at the Milvian Bridge was Rome itself. Possessing it (and the death of Maxentius) made Constantine undisputed emperor of the western Roman Empire. In the east, however, Licinius was still augustus and Constantine faced further civil war to re-unite the empire under his singular rule. At the same time as the battle of the Milvian Bridge, Licinius as warring with Maximinus in the east. The latter was defeated in battle in 313 CE and committed suicide. This left only Licinius and Constantine, who continued to fight. Constantine would win final victory at the Battle of Chrysopolis in 324 CE (fought on the outskirts of Byzantium, now a suburb of Istanbul), defeating Licinius and becoming sole emperor, establishing a new imperial dynasty and earning the epithet 'the Great' – the only Roman emperor to do so.

FURTHER READING

- *Milvian Bridge AD 312: Constantine's Battle for Empire and Faith*, Ross Cowan, Osprey Publishing
- *A Military Life of Constantine the Great*, Ian Hughes, Pen and Sword Military
- *In Praise of Later Roman Emperors: The Panegyrici Latini*, CEV Nixon and Barbara Saylor Rodgers, University of California Press

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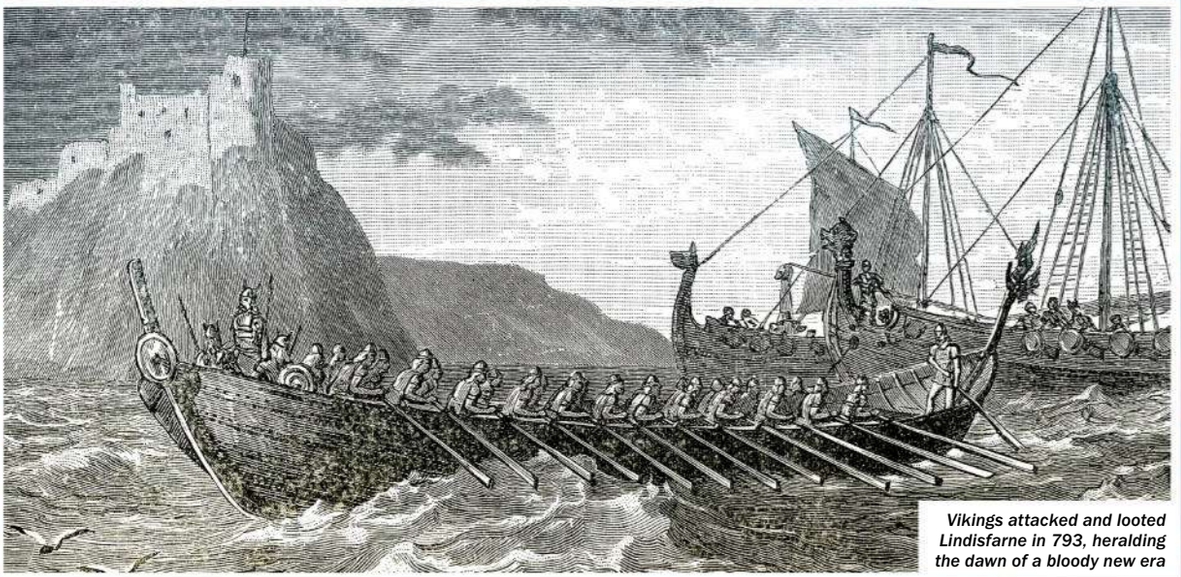
LINDISFARNE

ENGLAND'S BLOODIEST VIKING RAID

The tidal island of Lindisfarne can claim to be the single most important sacred site in England, but it was here that the first significant Viking raid on Britain took place

WORDS **EDOARDO ALBERT**



Vikings attacked and looted Lindisfarne in 793, heralding the dawn of a bloody new era

The shores of Lindisfarne had no defence against the elements or invaders. It had never needed them. The walls surrounding the priory in 793 were for the purpose of containing livestock, not for keeping Norsemen out. When the Scandinavian invaders reared their heads, in longships sailing on the North Sea, Lindisfarne learned a lesson that was to ring out through Anglo-Saxon Britain: prepare for the fury of the Vikings.

But the story of Lindisfarne began over a century before the Viking raid for which it is best known. It began with an exiled prince named Oswald who was preparing to fight for his kingdom. On the eve of the Battle of Heavenfield (633/4), he called down God's blessing on his small war band. Oswald received it. The next day, he was victorious. Oswald defeated and killed Cadwallon of Gwynedd and reclaimed the realm that his father had lost. The king had returned.

Now a ruler, Oswald lost no time in sending back to Iona for priests and monks to bring his people to have faith in the God who had brought him victory. But, first time around, it didn't work out so well: Bishop Corman returned to Iona, disgruntled, complaining that the English were "an ungovernable people of an obstinate and barbarous temperament".

Rather than give up, Iona sent Aidan to Oswald, and the king gave Aidan a base for his mission: Lindisfarne.

After the Romans left, Britain had split into many small kingdoms as the native Britons slowly retreated before the advance of the incoming Anglo-Saxons. This was a slow-motion conquest, taking centuries, and Oswald's ancestor, Ida, had launched the northern line of attack when he took the stronghold of Bamburgh in the middle of the 6th century. Oswald's father, King Æthelfrith, had hugely expanded the kingdom of Northumbria's power at the start of the 7th century, only to be killed in battle – by his brother-in-law. With Oswald's uncle Edwin in charge, Oswald's mother thought it better to go into exile to the sea-spanning kingdom of Dal Riada (present-day Argyll and County Antrim). Oswald grew up amid the sea lochs and islands of the north west, becoming fluent in Old Irish. Most importantly, for the future of England, he sailed a currach (traditional boat with animal hides stretched over a wooden frame) to Iona. Here, Oswald embraced the religion of the people his ancestors had displaced: Christianity.

Christianity in Ireland had developed in a land never conquered by the Roman Empire, a country entirely without the towns that provided bases for bishops elsewhere.

"THE NEXT DAY, HE WAS VICTORIOUS. OSWALD DEFEATED AND KILLED CADWALLON OF GWYNEDD AND RECLAIMED THE REALM THAT HIS FATHER HAD LOST. THE KING HAD RETURNED"

In response, Irish Christianity established itself around monasteries, with bishops often also acting as abbots. Aidan himself was both abbot and bishop, but he arrived in Northumbria with one disadvantage: he didn't speak the language. While he learned it, Oswald acted as his interpreter. One imagines that having the king act as translator must have aided Aidan's initial missionary effort considerably.

But an early medieval king was peripatetic, travelling with his court to royal estates throughout his kingdom and consuming the food renders that were the chief forms of taxation. With Oswald so often away, it was down to Aidan to spread the new word.

He did this through a mixture of stringent self-discipline, coupled with open-handed generosity. As a member of the nobility, Aidan was entitled to ride a horse – but, when he was given a fine and expensive horse by the king, he promptly gave it away to the first poor man he passed, claiming that no horse, however expensive, was worth as much as a man in need. The self-discipline he possessed was also evident in the monastery Aidan built on Lindisfarne. Surrounded by a ditch and bank, Aidan's monastery contained only those buildings strictly necessary. There was a church, made of wood and thatched, a cemetery, basic accommodation for the monks, and the workshops and sheds necessary for the other great work of early medieval monasteries: book production. Even royal guests had to rough it.

Aidan worked for 17 years from his base at Lindisfarne to spread the new faith. Having learned to speak Old English, he spoke with whoever he met on his travels through the kingdom. After Aidan died in August 651, simmering controversy over when to celebrate Easter came to a head.

***Above:** The two sites of the 2016 DigVentures excavations shown in relation to the modern-day priory ruins*

The ruins of the 12th-century priory with the spectacular unsupported rainbow arch at the centre

Lindisfarne Castle

Standing on a 27-metre high lump of dolerite, Lindisfarne Castle remains an imposing fortification

Henry VIII commissioned the first fortifications on the site of today's castle, but it was during the reign of Elizabeth I that the castle was built. Its garrison was ready to guard the harbour below against incursions from Scotland. Even after the accession of James I united England and Scotland under one crown, the garrison was maintained at some strength: a captain, two master gunners, one master's mate and 20 soldiers.

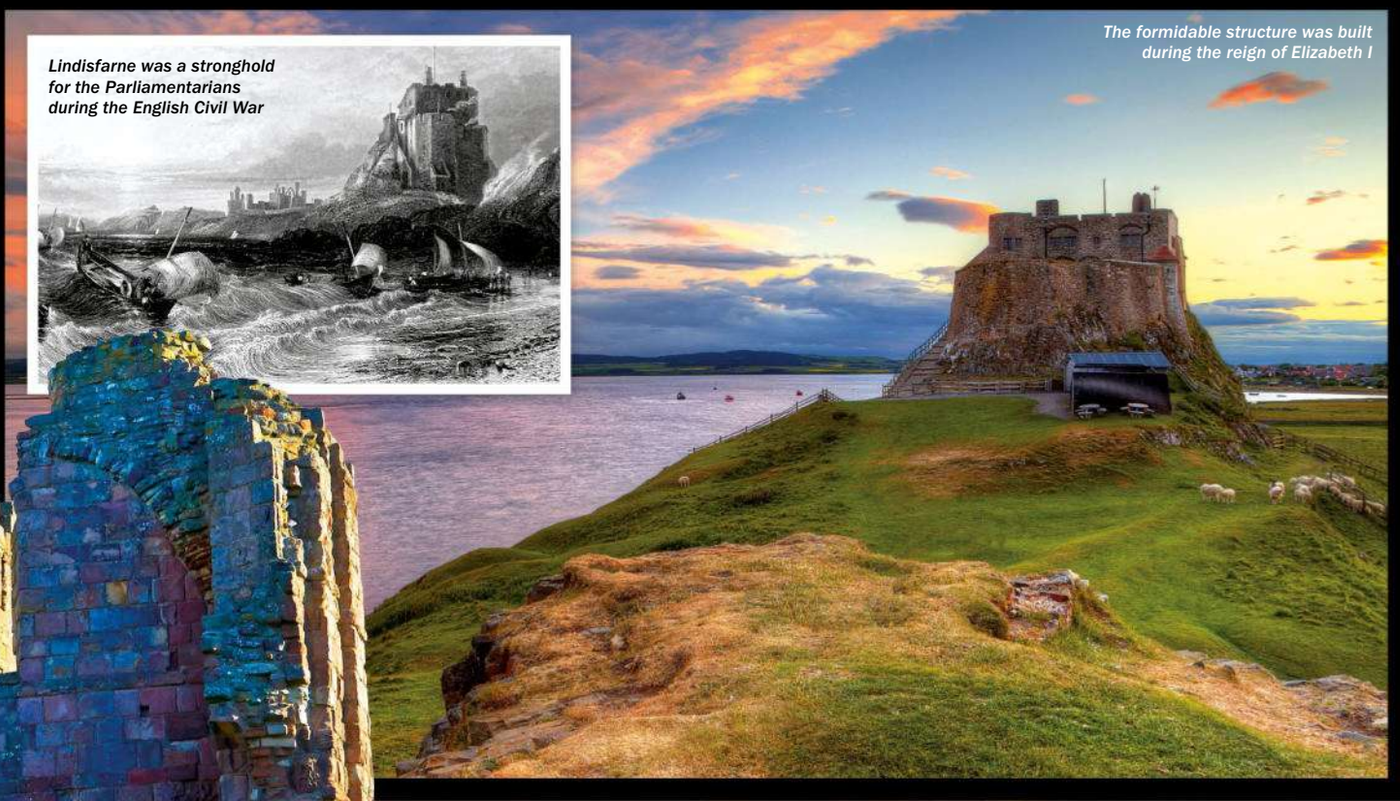
The castle's best-known captain was Captain Rugg. A visitor in 1635 wrote of Captain Rugg that he was "as famous for his generous and free entertainment of strangers as for his great bottle nose, which is the largest I have seen". In fact, every visitor to the fort seems to have remarked upon Captain Rugg's nose.

During the English Civil War, the castle's commander, Captain Batton, held the stronghold for the Parliamentarians, despite being besieged for long periods; in 1649, a relief force arrived just in time to stop the garrison being starved into surrender.

In 1715, with the garrison reduced to seven, a certain Lancelot Errington, captain of a ship anchored in the harbour, called at the castle for a shave. All done, he left, only to return with his nephew, Mark, because, he said he had lost his watch. Once inside, the pair drew their pistols and, crying, "Damn you, the castle is our own," forced the garrison out at gunpoint and raised the flag of James, the Old Pretender. The castle was soon retaken and the Erringtons were put in prison. But the intrepid pair escaped and, after hiding for nine days in a pea stack, they made good their getaway.

In 1902, Edward Hudson, the founder of *Country Life* magazine, leased the island's deserted castle and asked the architect Edwin Lutyens to make a home within its walls. Many of the rich and famous of the day came to stay, although some were distinctly unkind about their host (he was said to be "a pathetically dreary figure"). Others, particularly the children, loved the freedom of castle and island, including one Billy Congreve who later became the first man to be awarded the Military Cross, the Distinguished Service Order and a posthumous Victoria Cross during the Battle of the Somme.

Lindisfarne was a stronghold for the Parliamentarians during the English Civil War



The formidable structure was built during the reign of Elizabeth I

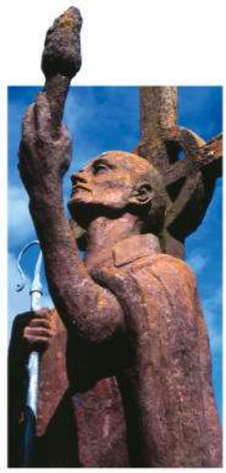
Shortly after the raid the scholar Alcuin wrote that the Vikings "desecrated God's sanctuary" and "trampled the bodies of saints like dung in the streets"

Developing in relative isolation, the Irish church had come to calculate the date of Easter differently from the rest of the church, with the result that King Oswiu (Oswald's brother, who reigned after him) might be fasting while his queen, who followed the Roman method, was celebrating. Such disunity in the royal household could not continue and, at a synod held in Whitby in 664, Oswiu decided for Rome.

Those monks at Lindisfarne who would not accept the changes returned to Iona. But to ease the Northumbrian church into these new ways, Oswiu installed Cuthbert as prior of Lindisfarne. Cuthbert, reported to have the gift of healing, ran the monastery and was a keen and popular missionary, though in later life he felt drawn to the spiritual calling of hermitage. After some ten years in solitude, he was persuaded back to become a bishop, and travelled extensively in his two years in the role. After death, he was sainted and his remains moved to Durham for safekeeping following the pillaging of the Vikings.

With the backing and protection of the kings of Northumbria, the monks of Lindisfarne seeded daughter monasteries through the north east: Whitby, Melrose, Jarrow and Wearmouth. Although the political strength of Northumbria lessened in the 8th century, the Northumbrian church entered a cultural golden age, producing extraordinary works such as the Lindisfarne Gospels, the vernacular poetry of Cædmon, not to mention Bede's *Ecclesiastical History of the English People*, without which our knowledge of the era would be bare indeed.

"LINDISFARNE MUST HAVE SEEMED LIKE A HELP-YOURSELF BUFFET TO THE SCOUTS FOR THE FIRST VIKING ATTACK"



***Above:** This statue of St Cuthbert stands to the north of the priory*

***Below:** A statue of St Cuthbert at the priory ruins, by Fenwick Lawson*

Sited on an island, with defences consisting only of a ditch and bank, Lindisfarne must have seemed like a help-yourself buffet to the scouts for the first Viking attack. They duly helped themselves in a bloody attack, reaping a harvest of the precious vessels, books (for the jewelled covers alone – they weren't interested in the contents), and people to sell at the Viking slave markets. It was 8 June 793 and the Viking Age was just beginning, bringing with it savagery the likes of which Lindisfarne had never seen.

The shock of the sacking of Lindisfarne, the most holy site in Britain, reverberated through Europe among the dispersed scholarly Northumbrians who were spreading the fruits of a century of scholarship through the kingdoms of north-west Europe.

Alcuin, who was helping kick-start the Carolingian Renaissance at the court of Charlemagne, wrote of his shock and horror when he heard the news: "Pagans have desecrated God's sanctuary, shed the blood of saints around the altar; laid waste the house of our hope and trampled the bodies of saints like dung in the streets." Alcuin also posited that the attack was the revenge of God, displeased with the human sin. He even wrote to Higbald, bishop of Lindisfarne at the time, to ask if he could think of any such guilt that might have brought the attack upon the island.

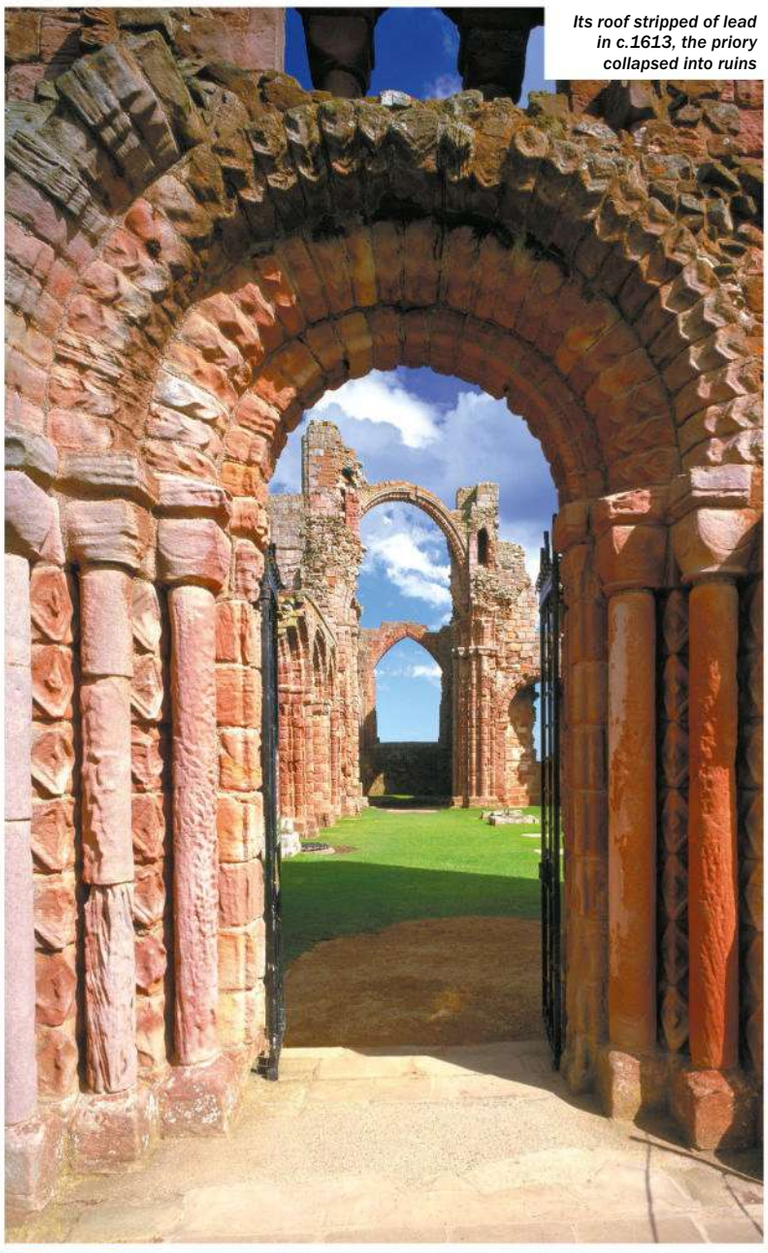
Alcuin then wrote to the king of Northumbria, Æthelred, expressing his own theory that the excesses of the people were to blame: "Consider carefully, brothers, and examine diligently, lest perchance this unaccustomed and unheard-of evil was merited by some unheard-of evil practice… Consider the dress, the way of wearing the hair, the luxurious habits of the princes and people."

But these attacks became more widespread across Britain, leading to Viking settlements across the land, the most significant being York. Further attacks throughout the early 9th century led most of the monks to abandon Holy

***Above:** The 793 massacre of Christians at Lindisfarne is often regarded as the beginning of the Viking Age*

***Right, top:** St Mark is one of the four Gospels written and drawn entirely by one Lindisfarne monk, Eadfrith*

***Right, bottom:** St Matthew, another of the Gospels, was translated from Latin into Old English in the mid-10th century*



Its roof stripped of lead in c.1613, the priory collapsed into ruins

Island. They moved to Norham on the River Tweed around 830 before finally abandoning any thought of returning to Lindisfarne in 875. The monks of the community, carrying their holy relics – in particular the remains of St Cuthbert – settled first at Chester-le-Street before moving to Durham.

Still conscious of the link with their first foundation, the monks at Durham set about re-establishing themselves on Lindisfarne when it was safe, in the early 12th century. The church, whose remains we see today, was completed around 1150. Monks were seconded to Lindisfarne from Durham for two or three years but, with the outbreak of continuing, intermittent war between England and Scotland after 1296, the monastery had to be fortified, although the monks don't seem to have held much of an armoury: just three lances, one helmet, one breastplate and one pair of iron gloves in 1362.

When Henry VIII declared himself head of the church in England, the cash-strapped monarch suppressed the country's monasteries in a land grab only equalled, in English history, by William the Conqueror. Lindisfarne was closed in 1537. The building was not dismantled at once, but when the lead was taken from its roof around 1613, it fell into the romantic but ruinous state of today.

For all of this storied history, it was from Lindisfarne that Christianity had spread. The example and teaching of men like Aidan and Cuthbert, and women like Hilda, abbess of Whitby, was crucial in this conversion, yet the site of Lindisfarne's original monastery, where it had begun – possibly the most significant building in England's religious history – had been entirely lost.

In 2016, DigVentures, a team of professional archaeologists who run excavations open to everyone, online or with trowel in hand, successfully crowdfunded a dig on Holy Island between 13 and 26 June to try to find the location of Aidan's monastery. Dr David Petts, lecturer at University of Durham, had carried out an extensive geophysical survey of the island, which suggested two possible locations of the early monastery.

"THE CASH-STRAPPED HENRY VIII SUPPRESSED THE COUNTRY'S MONASTERIES IN A LAND GRAB ONLY EQUALLED, IN ENGLISH HISTORY, BY WILLIAM THE CONQUEROR"

Today the picturesque scene belies the savagery that took place on the island at the hands of the Vikings

The Lindisfarne Gospels

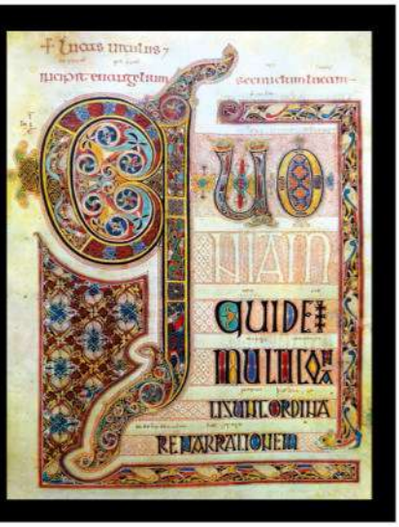
The Lindisfarne Gospels are the most exquisite product of Northumbria's Golden Age and provide vivid testimonies to the faith of the period

The Lindisfarne Gospels were written towards the end of the 7th century. Their 258 pages (which would have required the unblemished skin of 150 calves to make) contain the four Gospels, introductory material and a line-by-line translation of the original Latin into Old English, which was added in the mid-10th century.

The translator, Aldred, added a colophon saying who had done what in producing the Gospels. Almost unbelievably, one monk, Eadfrith (who would later go on to become the bishop of Lindisfarne) had written and drawn all of the material within. Most early medieval manuscripts were created by whole teams of monks, so could one man really have done all of this himself?

Recent work has confirmed what Aldred has said: the Gospels really are the work of one man, although other, named monks bound the book and covered it.

The Gospels were written "for God and St Cuthbert and for all the saints whose relics are in the island". They are on display at the British Library and can be seen online through the library's Turning the Pages function (www.bl.uk); the heritage centre on Lindisfarne has an electronic facsimile.

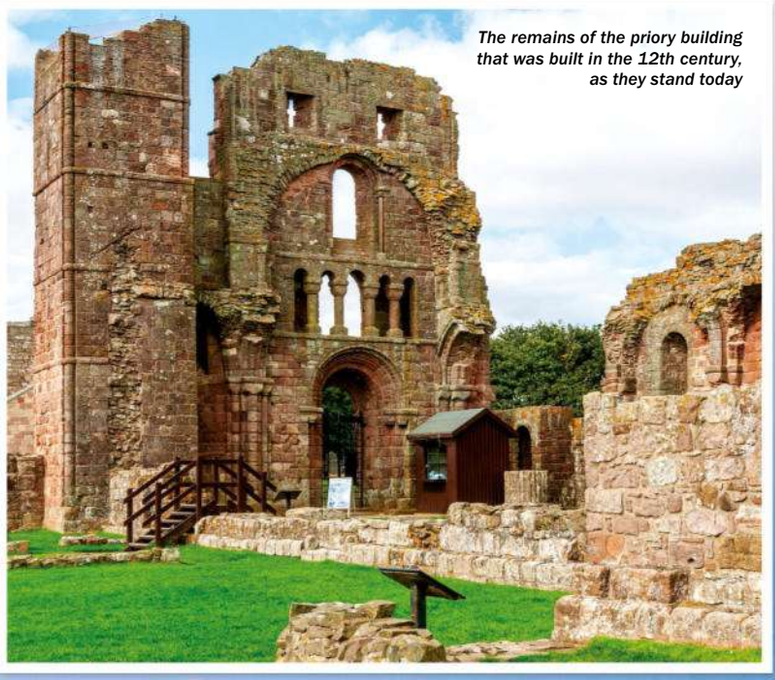


It looks like they hit on something particularly significant: an extremely rare Anglo-Saxon name stone. The stone's discovery, among rubble structures and human burials, along with another fragmented burial marker, strongly suggests that this area was part of the original monastic complex.

"This is really, distinctively, diagnostically, proper Cuthbertian period Anglo-Saxon," said Dr Petts. "There's been a few found here, and a handful of other locations. It's unimpeachable evidence for Anglo-Saxon activity."

The stone has been preliminarily dated to between 650 and 750, putting it right in the period of Lindisfarne's first monastery. On the other side of the village, excavations uncovered evidence of Medieval fishing industries, along with a fragment of bone comb that has been dated to the 10th or 11th centuries.

This places the bone comb in the period after the monks had fled the Viking attacks, but before they returned in the 12th century to build the 'new' priory. Whether or not it belonged to a monk or someone else living on the island isn't clear, but a few historical sources do suggest that not all of the survivors fled and that life continued on the island in the intervening years. This provides a small glimpse into the lives of those who stayed. The Medieval bone comb that DigVentures found shows that not everything ended when the Vikings came. But much certainly did.



The remains of the priory building that was built in the 12th century, as they stand today

Images: Alamy, Getty, Wiki / PD / Art

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Heroes of the Victoria Cross

DAVID CURRIE

In August 1944, as Allied forces attempted to close the Falaise Gap, a Canadian major led a small battlegroup into a French village to prevent the enemy escaping

WORDS **ALEX BOWERS**

Alone with darkness drawing in, head bowed under a maelstrom of mortar shells, Major David Currie entered the German-held village of Saint Lambert-sur-Dives. The air was tinged with the smell of cordite, masonry littered the streets and enemy outposts surrounded the 32-year-old Canadian officer, who took note of their locations as he moved forward on foot. A short distance away, he spied the two knocked-out Sherman tanks from his armoured reconnaissance force that had earlier attempted to penetrate the Norman commune only to be disabled by 3.5in (88mm) guns. The Saskatchewan native, casting a distinct presence with his tall and lean stature, greeted the beleaguered crews upon discovering them. His reconnoitre complete, his "boys" – as he called them – saved from an uncertain fate, all that was left was to pull out and prepare for the fierce fighting ahead. It was 18 August 1944, and Currie's biggest test was yet to come.

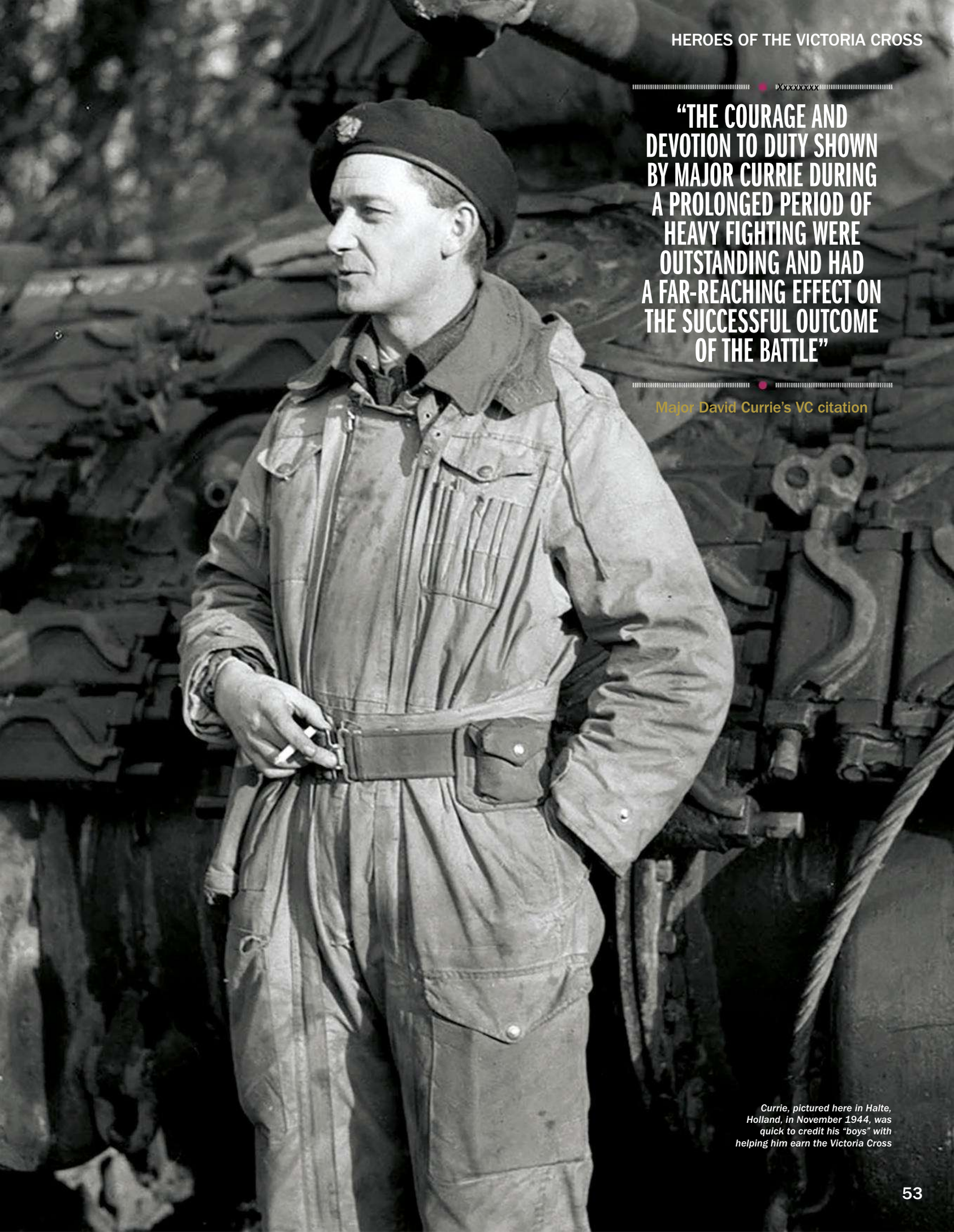
Two German armies had been trapped by the Allies in what had become known as the Falaise Pocket. Some 100,000 desperate troops, against Hitler's orders, hoped to escape encirclement via a narrow opening between Chambois, Saint Lambert-sur-Dives and Trun.

Currie said he was "staggered" to learn he'd been awarded the Victoria Cross. "I sat down, had a cigarette and thought it over," he recounted of the moment

But standing in their way to the northwest were the Polish and Canadians, including Currie's 29th Canadian Armoured Reconnaissance Regiment (South Alberta Regiment) of the 4th Canadian Armoured Division. Of particular importance was Saint Lambert-sur-Dives' main bridge over the River Dives, which needed to be captured and held at all costs if the enemy were to be denied their retreat from that point.

This task had been given to a small battlegroup led by Currie, consisting of 15 tanks from his very own South Alberta's 'C' Squadron and 55 infantrymen from the Argyll and Sutherland Highlanders of Canada. Though their initial foray into the village's outskirts had come up against tough resistance, the full assault would be made just after dawn the following day, 19 August, without the aid of artillery support.

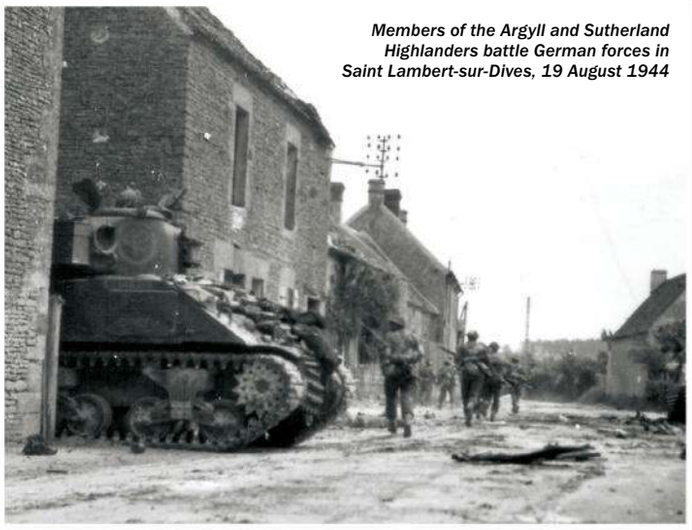
As the Sun rose above Normandy, the battlegroup started its approach. It wasn't long before the Germans opened fire on the advance, with the lead tank hit and its crew bailing out. Currie himself dismounted his Sherman and, as he had done the night before, scouted the village for potential targets. The crew remaining in his tank proceeded to take out a Panzer Mk IV while



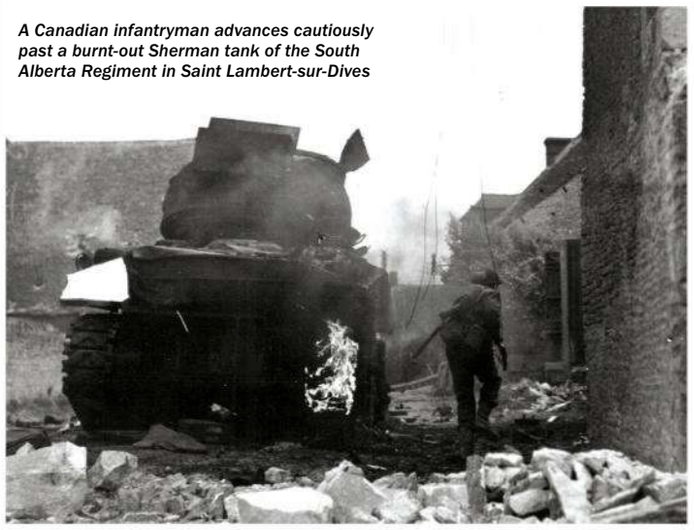
"THE COURAGE AND DEVOTION TO DUTY SHOWN BY MAJOR CURRIE DURING A PROLONGED PERIOD OF HEAVY FIGHTING WERE OUTSTANDING AND HAD A FAR-REACHING EFFECT ON THE SUCCESSFUL OUTCOME OF THE BATTLE"

Major David Currie's VC citation

Currie, pictured here in Halte, Holland, in November 1944, was quick to credit his "boys" with helping him earn the Victoria Cross



Members of the Argyll and Sutherland Highlanders battle German forces in Saint Lambert-sur-Dives, 19 August 1944



A Canadian infantryman advances cautiously past a burnt-out Sherman tank of the South Alberta Regiment in Saint Lambert-sur-Dives

the Argylls continued along the road and cleared houses. By midday, the Canadians had clawed their way into about half of Saint Lambert-sur-Dives, yet with limited communication and air power available, enemy counterattacks to reclaim the captured bridge took their toll. In one instance, recalled Currie, the Germans swarmed over the South Alberta's tanks, whereby: "The boys were fending them off with pistols, grenades and… swinging the turret of the tank around to knock them off." The men nevertheless held out until reinforcements arrived at 1600 hours, comprising 'C' Company of the Argylls and a composite company from the Lincoln and Welland Regiment.

Joining these new additions was a forward observation officer at last able to orchestrate Allied artillery. Friendly shells promptly rained down on the village, some within a few feet of Currie and his tank. However, the major kept his cool, insisting that the bombardment carry on due to its devastating effect against the opposing forces. When not thrusting his Sherman into the fray, Currie was on the ground shoring up defences. He inspired courageousness wherever his boys faced the most perilous odds, even among a withdrawing group of soldiers who, rallied by their commander, returned to their positions and stayed for the duration of the battle. Still, despite their best efforts, it soon became apparent that the spread-out battlegroup would be vulnerable in the failing light. Currie made the difficult decision to cede a part of Saint Lambert-sur-Dives to consolidate their positions near the bridge, main intersection and his headquarters.

"THERE WAS KILLING AND BEING KILLED AT AN UNPRECEDENTED RATE. THE ENEMY, HOWEVER, WAS THE BIG LOSER"

Trooper Ray Lane

Enemy infiltration into the perimeter ensured a restless night as the men shot at every sign of noise or movement. It would be nothing compared to what still lay in store. The next day, 20 August, the Germans' desperation to escape through the Falaise Gap reached fever pitch. Between 0800 and 0830 hours successive waves were launched at the battlegroup, intent on probing for weaknesses, and in the process killing or wounding all officers apart from Currie. The repeated attacks pushed the bridge's defenders back from their objective, leaving considerable casualties in their wake. Further help arrived between 1400 and 1500 hours, not least the much-needed deployment of 17-pounders to square up against the German armour. Currie himself managed to silence a fearsome Tiger tank when he directed his Sherman's fire at the beast. Wielding a rifle from his turret, he also cleared out enemy snipers harassing his HQ.

With dusk came a new threat: a mass of German infantry and vehicles gathering in what appeared to be a last-ditch attempt to break out. Currie, tired and haggard though he was, mustered together a troop of Shermans and ordered them into action. The remnants of the South Alberta's 'C' Squadron fought with such intensity that the enemy was routed before it could be deployed. It was a turning point, and the moment that two German armies were in essence denied a large-scale retreat out of the Falaise Pocket via Saint Lambert-sur-Dives. Those Canadians

Currie, on the left with his pistol drawn, oversees the surrender of German troops at Saint Lambert-sur-Dives on 19 August 1944. The photo is regarded as one of the most iconic images of WWII

Currie (pictured here in April 1960) was appointed sergeant-at-arms of the House of Commons in Ottawa in 1959

B Coy Argyll and Sutherland Highlanders 4 Division pictured during action in Saint Lambert-sur-Dives, 19 August 1944

A Canadian Sherman tank covers a group of soldiers through the streets of Falaise, 17 August 1944

who had endured the onslaught struggled to comprehend what they had just lived through. "It is hard to get a clear, intelligent picture in my mind of the events," said trooper Ray Lane in the engagement's aftermath. "It was such a blur of burning tanks, dead bodies, wounded being carried off on stretchers, desperate faces of Germans wanting to surrender, angry faces of SS soldiers trying to prevent it – shooting their own countrymen… There was killing and being killed at an unprecedented rate. The enemy, however, was the big loser."

The North Nova Scotia Highlanders officially relieved the battered and bloodied battlegroup on the 21st. After three days and nights of fighting for the River Dives' vital bridge, Currie's boys could be deservedly stood down. They had destroyed seven German tanks, 12 88mm guns and 40 vehicles, as well as killing an estimated 300 Germans, wounding 500 and capturing 2,100 in the now-closed Falaise Gap. Dozens of these prisoners, their hands in the air, filtered out of the village ruins and past the man whose modest-sized reconnaissance force had foiled their every move. Currie observed as keenly as his aching body would allow, wishing to ensure everything was in order before the fatigue coursing through him became overwhelming. He had rested a mere one of the 36 hours since he'd been in Saint Lambert-sur-Dives. Finally, his duty done, the major fell asleep on his feet and collapsed.

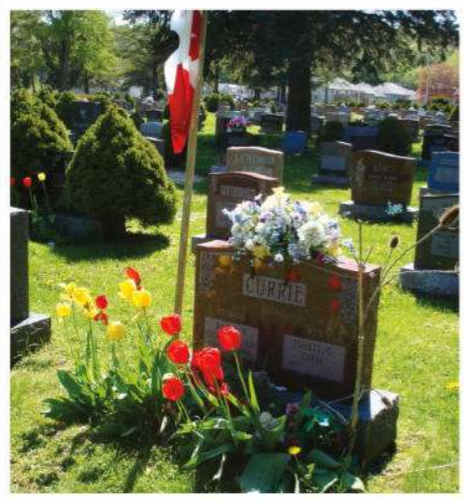
Life would never quite be the same after he awoke. Then unknown to Currie, a couple of days earlier on 19 August a nearby photographer had taken a shot of him accepting the surrender of a German officer that would become one of the most iconic images of Canada's Second World War experience. The Canadian Army's official historian CP Stacey described the scene "as close as we are likely to come to a photograph of a man winning the Victoria Cross". It would be the only such medal awarded to a Canadian during the Normandy campaign, Currie's November 1944 citation reading in part: "There can be no doubt that the success of the attack on and stand against the enemy… can largely be attributed to this officer's coolness, inspired leadership and skilful use of the limited weapons at his disposal. The courage and devotion to duty shown by Major Currie during a prolonged period of heavy fighting were outstanding and had a far-reaching effect on the successful outcome of the battle."

While no one disagreed that Currie had played an incredible role, the praise, in his eyes, belonged to those who had served with him as much as himself. In a radio interview, the modest VC recipient noted: "The boys fought very well throughout the whole show."

Currie survived the conflict and returned home. In 1959, Canadian Prime Minister John Diefenbaker appointed him sergeant-at-arms of the House of Commons, a prestigious position he remained in until 1978. Sadly, on 20 June 1986, he passed away after suffering a heart attack aged 73. He was buried in Owen Sound's Greenwood Cemetery, where he rests with fellow Canadian Victoria Cross recipients Thomas William Holmes and Billy Bishop, both of whom earned their awards during the First World War.

Today, Currie's Victoria Cross is under the care of the Canadian War Museum in Ottawa, where visitors can learn about his heroics. Remarking on that story, Canadian military historian Brad St Croix tells *History of War*: "Currie's conduct at Saint Lambert-sur-Dives was one of the finest examples of leadership by a Canadian during the Second World War. He went above and beyond more than once but remained humble about his part in closing the Falaise Gap, instead choosing to recognise the efforts of those under his command. Fundamentally, Currie left a powerful legacy as a leader."

Currie in a Humber I scout car, Halte, Holland, 12 November 1944

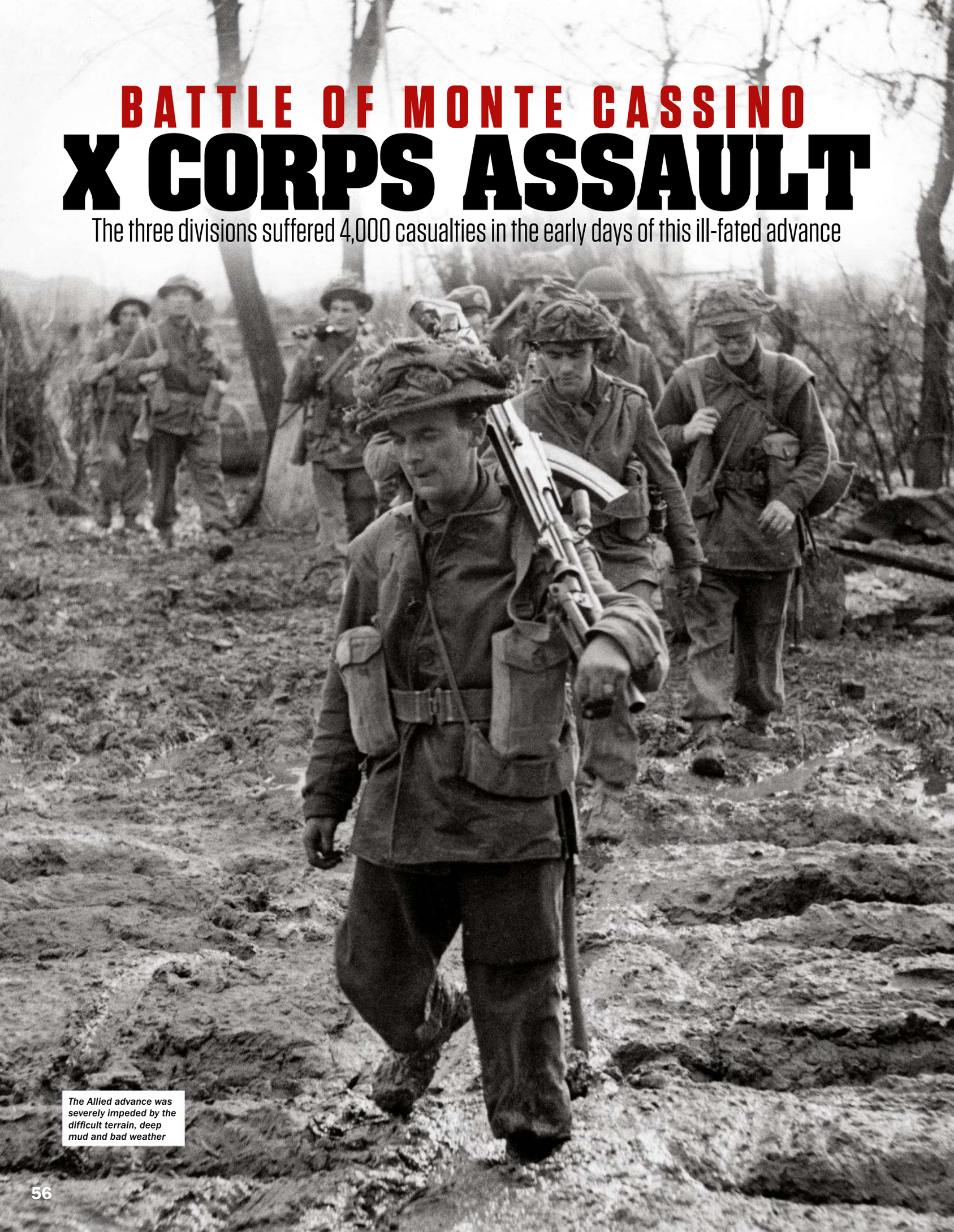


Images: Alamy, Getty, Library and Archives Canada/National Film Board of Canada/Department of National Defence, Billy Bishop Museum, Janet Iles, Norma Graham

BATTLE OF MONTE CASSINO

X CORPS ASSAULT

The three divisions suffered 4,000 casualties in the early days of this ill-fated advance



The Allied advance was severely impeded by the difficult terrain, deep mud and bad weather

The first attack on the Gustav Line was mounted by the British X Corps' 56th and 5th Divisions on the left of the Allied position, near the west coast. On the clear but freezing night of 17 January 1944, and after a major artillery barrage, the 56th crossed the Garigliano River in small boats, pulled across on a rope secured on the far bank.

The crossing itself was uneventful, but soon after they disembarked the troops came under machine gun and mortar fire from the defending forces of the German 94th Infantry Division, under Major General Bernard Steinmetz. Confusion reigned as the men became separated from their groups. As 19-year-old Fusilier Len Bradshaw recalled later: "We didn't know what was going on. The night was very much like that."

Panic crossing

The 5th Division crossing nearer the coast was less successful. The Americans crewing the boats were supposed to be guided by landing lights, but the few lights that actually reached the crossing point arrived too late to make much of a difference. As they crossed the river estuary, Allied forces were met with German fire while they were still 200 yards from the bank. Several of the boats were swept out of the river mouth into open sea, and in the confusion a craft full of Fusiliers landed on the wrong bank and came close to attacking their own HQ. But others made it across successfully.

Stretcher bearer Jack Williams said: "We got out of the boats, and straightaway we had to get up to our objective, which was a farm on the right. We had to get down there immediately – we couldn't hang about on the bank. We could hear the shouts and screams of the people who were thrashing about in the water, who had been hit. It was a bit of a do at the time, and everyone was panicking."

Despite stiff resistance from the 94th and extensive minefields that kept some units bottled up near the riverside bridgehead, the 56th Division's early objective of the hill Colle Salvatito, a mile from the river, was captured by Len Bradshaw's 9th Fusilier Battalion at about 10am the following morning. On their right, the 8th Battalion headed for Monte Damiano, a huge and well-defended mountain.

As Fusilier Gilbert Allnutt recalled: "Major Allison set off at our head, striding towards the summit at a pace no one could match. Our advance began to look like a sadist's cross-country race for, weighed down by our packs, we grimly tried to keep up with our leader – an impossible task for many… Suddenly shells began to fall in front of us and Major Allison was hit. I see him now, in memory, blood streaming down his face, wounded for the second time, and forced to go back and leave his company."

Fruitless attempts

The 5th Division's bridgehead was less secure, and it had taken such a battering that the 15th Division had to be committed far sooner than was intended. However, by 19 January the target of Minturno was cleared of enemy units.

A third X Corps crossing, by the 46th Division on 19 January, proved even less successful. It crossed the Garigliano on the right flank opposite Sant Ambrogio, much further up the river, and was to support the US II Corps who attacked across the Rapido, protecting their flank. But this section of the river flowed incredibly fast, sweeping away the landing craft and making it impossible for the engineers to build a bridge. Only a handful of troops made it to the far bank despite 14 attempts at a crossing. This left the II Corps without support.

General Clark briefly considered cancelling the assault across the Rapido River the next day. He recorded in his diary: "Although the 46th effort would not entirely have protected our left flank, its failure would leave it entirely uncovered during the crossing of the Rapido River." Major-General Fred Walker, whose 36th Division of the II Corps was set to cross the Rapido, was even blunter in his own diary. After the 46th Division commander came to him to apologise for his failure to cross the Garigliano, he wrote: "His failure makes it tough for my men who now have none of the advantages that his crossing would've provided. The British are the world's greatest diplomats, but you can't count on them for anything but words." Despite the unsuccessful crossings it was decided the attack would still go ahead.

Rescue by mule

Due to the terrain and the weather, mules proved more adept at carrying combat supplies and wounded troops than motorised vehicles. Unfortunately for the X Corps, only around 1,000 were available. Although they proved invaluable, it took an average of six hours to get a wounded

"ALL AROUND ARE DEAD JERRIES. MACHINE GUN BULLETS ARE WHISTLING OVERHEAD AS WE RUN"

The calm before the storm: Royal Engineers move up through a smokescreen during training for the crossing of the Garigliano River

Men of the King's Royal Rifles man an observation post in the Garigliano area. Strong German resistance prevented the British assault from breaking into the Liri valley

soldier off the mountains and to a regimental aid post by mule. In some places, the terrain was too difficult even for mules, so the troops themselves had to bear the stretchers.

Staff Sergeant Bill Quirk of 184 Field Ambulance recalled: "We had a stretcher chain reaching over three mountains with about 1,000 men – Indian, British, Italian and any others that could be brought in. They were spread out four to a stretcher, with varying distances between each team according to the difficulty of the terrain. Each group brought a stretcher anything from 50 yards to a quarter-of-a-mile each and handed it over to the next group and took an empty one back with them… In places the paths were so narrow and steep it was a two-man job, and quite a few were killed by the constant shelling." Advances were being made, but the cost was high.

One man who knew only too well about this high cost was Lance Bombardier Spike Milligan. Making his way to his battery's observation post, he observed: "All around are dead Jerries. Machine gun bullets are whistling overhead as we duck and run inside… We pass a Sherman tank with a neat hole punched in the turret. A tankman is removing kit from inside. Lying on a groundsheet is the mangled figure of one of the crew. 'What a mess,' says the tankman in the same tone as though there was mud on the carpet." Milligan, of course, later found fame as a comedian, most notably in *The Goon Show*.

Along with the French attack already underway in the north, the X Corps' advance

"WE HAD A STRETCHER CHAIN REACHING OVER THREE MOUNTAINS WITH ABOUT 1,000 MEN"

alarmed General Fridolin von Senger und Etterlin, commander of the German XIV Panzer Corps, and the person in overall command of the defence of the south-western section of the Gustav Line. He feared that the 94th Infantry Division couldn't hold back the attack alone, and that the British would break through in numbers, outflanking the German units at the mouth of the all-important Liri valley. He immediately requested reserves, and Field Marshal Albert Kesselring, who also saw the threat posed by the X Corps, agreed to mount a counter-attack. Two experienced reserve divisions, the 29th and 90th Panzer Grenadiers, were sent from near Rome to Colonel General von Vietinghoff, who used them to bolster von Senger's troops. The 15th Panzer Grenadier Division was moved along the line too.

German counter-attack

Given the strength of the divisions brought in as reinforcements, it was inevitable that the German counter-attack would stop the Allied advance in its tracks. And so it proved. The advance by the 5th Division of the British X Corps ground to a halt by 24 January, as they fought not to advance to the Liri valley but to hold gains already made. General (and later Sir) Richard McCreery, commander of the X Corps, could do little more than pull his troops back to positions from where they could mount an active defence.

In all, the three divisions of the X Corps suffered 4,000 casualties in these early days of the First Battle of Monte Cassino. It has been speculated that if they'd had more reserves available, either their own or drawn from the US II Corps by cancelling their assault in the centre, a decisive breakthrough could have been made.

The German 94th Infantry was overstretched, a position appreciated by von Senger and Kesselring, but which the Allied 5th Army had failed to grasp. But even if an opportunity had been missed, the initial attack had succeeded in achieving one key objective: the Germans had committed their reserves, tying up troops that otherwise could be used to threaten the planned beach landing at Anzio.

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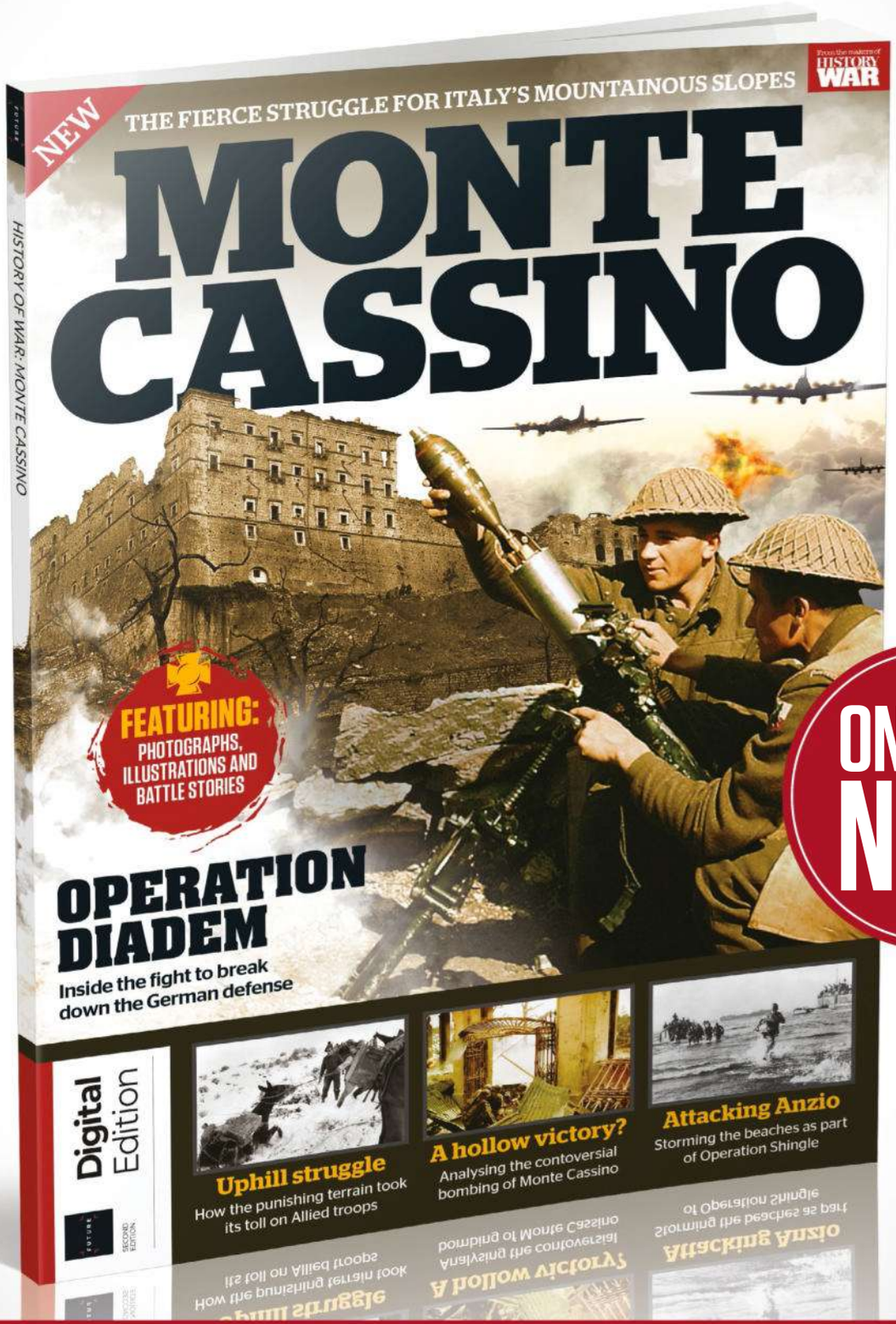
Explore this complete guide to the Battle of Monte Cassino, one of World War II's bloodiest battles, from the Anzio beach assault to the controversial Allied bombing campaign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LOCKHEED F-104 STARFIGHTER

Take a look inside the USA's futuristic-looking supersonic fighter, known as 'the missile with a man inside'

WORDS STUART HADAWAY

Designed in the early 1950s, the F-104 was the first operational fighter intended to maintain sustained supersonic flight, with an optimum speed of Mach 1.4 but a top speed of Mach 2. Built for high-altitude operations, it was an ambush predator, able to sweep in on Soviet nuclear bombers or fighters, engage in a single pass and then clear the area.

Often likened to a 'rocket with wings', the type became the first aircraft to simultaneously hold the world air speed 1,404mph (2,260kp/h) and altitude 91,243ft (27,811m) records simultaneously, in 1958. However, the design compromises that maximised that performance meant that it was a poor dogfighter, with limited turning ability.

The aircraft only saw short operational life with the US Air Force (USAF), including brief service over Vietnam, but went into much longer service with a number of other countries. Its ability to take off and climb rapidly away from an air base that might be targeted by incoming nuclear weapons was seen as an advantage by several European countries, and the F-104G built for service in Germany is sometimes seen as the definitive version, while the Italians only retired the Starfighter in 2004.

'MODEL KIT' CONSTRUCTION

The F-104 was designed for easy, modular construction. The fuselage split into halves along its length and the engine, cockpit and avionics were fitted inside before the halves were connected, like a full-scale model kit. The wings and tail where then fitted.

WINGS OR FINS?

The F-104 had incredibly small wings, more like rocket fins. These led to several problems, including lack of internal storage for fuel or undercarriage, and gave the aircraft a sometimes dangerously high landing speed.

The F-104 remained in service with the Italian Air Force until 2004, 50 years after its first flight

UNSTABLE STABILISER

The fully movable horizontal stabiliser (technically a stabilator) had to be large to help compensate for the small size of the wings, but this itself could cause other aerodynamical issues, such as limiting the rate of turn.

WING-TIP PYLONS

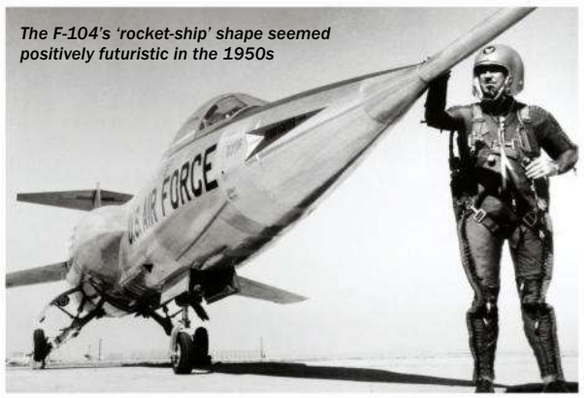
Pylons on the tips of the wings could be fitted with air-to-air missiles or large external fuel tanks to augment the relatively small tanks inside the fuselage.

Illustration: Nicholas Forder Images: Alamy, Getty

LOCKHEED F-104A STARFIGHTER

COMMISSIONED	1955
ORIGIN	USA
LENGTH	54.8FT (16.7M)
WINGSPAN	21.9FT (6.7M)
ENGINE	1 X GENERAL ELECTRIC J79-GE-7 TURBOJET, 10,000LB (44KN) DRY/15,800LB (71KN) ON AFTERBURNER
CREW	1
PRIMARY WEAPON	2 X AIM-9 SIDEWINDER AND 1 X 20MM VULCAN ROTARY CANNON
SECONDARY WEAPONS	2 X 500LB (227KG) BOMBS, TACTICAL NUCLEAR BOMBS, ROCKET PODS

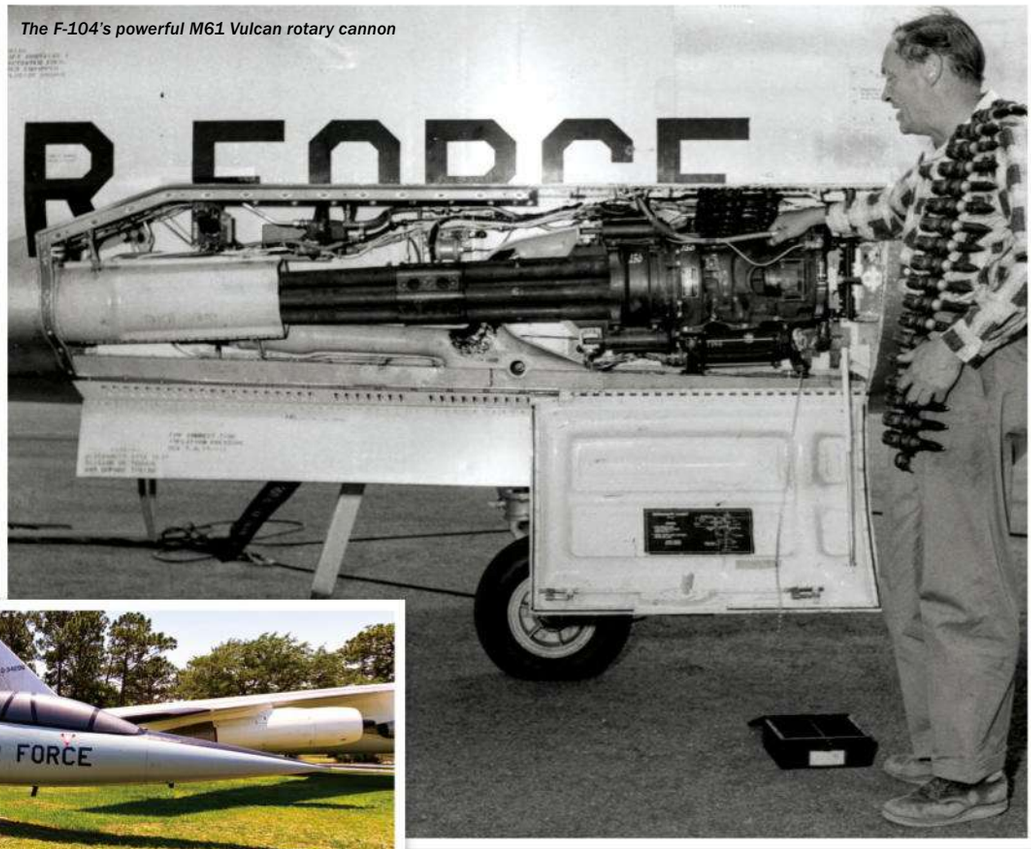
"IT WAS AN AMBUSH PREDATOR, ABLE TO SWEEP IN ON SOVIET NUCLEAR BOMBERS OR FIGHTERS, ENGAGE IN A SINGLE PASS AND THEN CLEAR THE AREA"



The F-104's 'rocket-ship' shape seemed positively futuristic in the 1950s

ARMAMENT

The F-104 could originally carry two AIM-9 Sidewinder missiles mounted on the wing tips, and some later models carried two more on pylons under the wings. A 0.79in (20mm) M61A1 Vulcan rotary cannon with 1,500 rounds of ammunition was on the port side under the cockpit. This gun also proved surprisingly effective for ground strafing, and some F-104s were additionally fitted with pylons to carry two 500lb (227kg) bombs or two 20-rocket pods for ground attack. On some types a Mk.28 or Mk.43 tactical nuclear bomb could be carried under the fuselage.



The F-104's powerful M61 Vulcan rotary cannon

A preserved F-104D-LO two-seat combat trainer with Sidewinders on the wing tips

"THE WINGS WERE SO THIN THAT THE LEADING EDGES WERE SHARP ENOUGH TO BE A DANGER TO GROUND CREW"

DESIGN

Built like a futuristic manned rocket, the Starfighter was long and thin, with an incredibly short wing span. The wings were so thin that the leading edges were sharp enough to be a danger to ground crew and the undercarriage had to fold into the fuselage. Lack of space in the wings also limited fuel storage. A high 'T'-tail limited the angles of bank that could be achieved at high speed, limiting manoeuvrability. The design led to many issues and a very high accident rate among early models.

The F-104 was highly distinctive with its needle-like fuselage, stubby wings and high 'T' tail

ENGINE

The General Electric J79 was an axial-flow turbojet, with a 17-stage compressor and a three-stage turbine. Unlike most supersonic jets, it had no variable-geometry inlets to control air flow, instead bleeding air from the compressor's 17th stage to regulate intake; this air also cooled the engine, demisted the cockpit and even operated the pilot's anti-G suit. The type went through many marques, increasing thrust in early models from 9,300lb (41.4kN) dry to 11,900lb (52.8kN), and from 14,800lb (65.8kN) on afterburner to 17,900lb (79.6kN).

Nearly half the length of the fuselage was taken up by the J79-GE engine

***Inset, left:** Some nuclear-armed German F-104Gs were equipped with Zero Length Launch rockets to be used with ramps to assist rapid take off in case of war*

***Below:** The aircraft's design was highly streamlined, with narrow fuselage and needle-nose*

All images Alamy / Getty / Wiki - PD - Gov

COCKPIT

The cockpit of the F-104 was confined but functional. The principal flight instruments were directly ahead of the pilot, who did not have any form of Heads Up Display. Behind the control column was the screen for the forward-looking targeting radar. Visibility directly ahead was limited by the cockpit structure, but much better to either side. Early models had a downward-firing ejector seat to avoid the high 'T' tail. Over 20 pilots were killed using this system and it was replaced with a more conventional upward-firing seat.

"OVER 20 PILOTS WERE KILLED USING THE EJECTOR SYSTEM. IT WAS REPLACED WITH A MORE CONVENTIONAL UPWARD-FIRING SEAT"

The instrument panel and controls were well laid out compared to many early jet fighters

The cockpit of the F-104 was tight but well ordered

SERVICE HISTORY

The F-104 entered service with the USAF in 1958, and Starfighters were on the potential front lines during the Berlin Crisis of 1961 and the Cuban Missile Crisis of 1962. From 1965-67 the F-104 saw limited use over Vietnam, flying escort duties and later ground-attack sorties. The type was retired by the USAF in 1969, but NASA used them for training until 1994.

The type had much wider service overseas – in 14 other countries across Europe, the Middle East and Asia – and it saw mixed success and popularity. The largest user, Germany (who also made them under licence), lost 31 percent of their aircraft and in 1975 Lockheed awarded a payment to the dependents of the lost pilots. Canada lost some 46 percent of their F-104s in accidents, although the Spanish did not lose a single aircraft. The only other country to use the type in combat was Pakistan, in the 1965 and 1971 wars with India.

F-104Cs of 479th Tactical Fighter Wing at Da Nang, Vietnam, 1965

German Air Force Starfighters on patrol, 1965

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HOME FRONT

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A rehearsal of the 1963 production. The actors are depicted as Pierrot clowns – stock pantomime characters whose origins lay in 17th century Italian theatrical traditions

OH! WHAT A LOVELY WAR

Eleanor Dickens, curator at the British Library, reveals how 60 years ago a radical stage musical changed perceptions of the First World War

On 19 March 1963, the musical *Oh! What a Lovely War* premiered at the Theatre Royal Stratford East in London to great acclaim. Directed by British theatre director Joan Littlewood, the production was a biting satire about the First World War. Making extensive use of songs that were popular during 1914-18, the musical mixed comedic and tragic themes to make its 1960s audience reconsider what they thought they knew about the conflict.

The nightmarish horrors of the war had already been subjected to cultural critique during the conflict itself by soldier-poets like Wilfred Owen and Siegfried Sassoon. The post-traumatic aftershocks were also depicted in the interwar period by playwrights such as RC Sherriff, who wrote the 1928 play *Journey's End* based on his own experiences of fighting on the Western Front.

However, men like Owen, Sassoon and Sherriff were members of the officer class and the experiences and sufferings of the ordinary 'Tommy' had largely been glossed over by popular culture. This changed in the 1960s with revisionist histories of the war that heavily criticised the British high command.

For example, Alan Clark's 1961 military history book *The Donkeys* popularised the phrase "Lions led by donkeys", with *Oh! What a Lovely War* emerging as part of this new reassessment. Told from the perspective of the common soldier, the musical was noticeably political and angry at the enormous casualties. This struck an emotional chord that chimed with audiences who had survived or were intimately familiar with the experience of both World Wars.

Such is the importance of *Oh! What a Lovely War* in theatrical history that its archives from the Theatre Royal are now preserved in the British Library. Eleanor Dickens, curator of Contemporary Literary Archives and Manuscripts at the British Library, discusses how the musical was developed, the production techniques it employed and why its powerful legacy continues 60 years after it first premiered.

What were the origins of the musical?

The original idea for the musical actually came from Gerry Raffles, general manager of Theatre Royal. He was convalescing in bed after a serious boating accident in 1962 and heard the radio play *The Long, Long Trail* by Charles Chilton. *The Long, Long Trail* tells its story through the songs of the First World War and Raffles was inspired by it, so the idea grew from there. The archive at the British Library contains lots of original songbooks from the First World War, which were presumably gathered by Littlewood and Raffles in the course of researching and devising the play.

What were the musical's theatrical themes and how was it presented on stage?

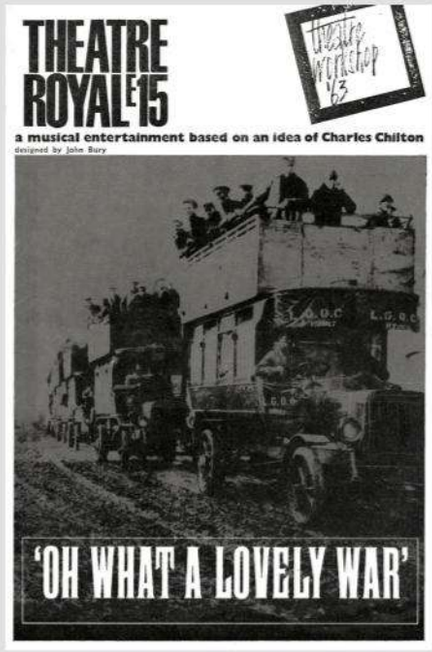
Oh! What a Lovely War was definitely supposed to be a play with a political point to wield, which Littlewood did not shy away from. The production expresses a lot of anger and pain at the huge loss of life in

the First World War and particularly in the perceived mismanagement of the war and the pointlessness of it. This was something which Littlewood saw as having a catastrophic effect on the common soldier sent to fight and not those in positions of power.

The really striking thing about the production is how Littlewood chose to express this. The production wasn't played straight and there were no soldiers' uniforms or weighty dialogue. Instead, there were popular theatre techniques, that audiences were familiar with. At the same time, above the stage, Littlewood had a newsreel 'ticker-tape' which updated on statistics of the war effort while the play ran. This combination was stark. The audience couldn't have failed to be affected while a song plays on stage and the ticker tape read, "Somme battle ends… Total loss 1,332,000 men… Gain: Nil."

Littlewood didn't want the play to be sentimental or gruesome and when she talked about it over the years she always made that clear. This was exemplified by Murray Melvin, a member of the original cast, who recalled how she cut certain improvised scenes for being too gruesome. Littlewood left the statistics displayed above the stage on the 'ticker-tape' to convey the horror.

The musical was named after a music hall song that was written in 1917 by JP Long and Maurice Scott



A poster for the musical's original 1963 production at the Theatre Royal Stratford East

Oh! What a Lovely War is famous for its use of First World War-era songs. How were they used in the production?

The songs in the production were used as an incredibly effective device by Littlewood. Nostalgic and familiar, they united the audience with each other and with the company on stage. This familiarity was a powerful tool. Using songs from music hall to Anglican Church songs that held a place in people's consciousness was an incredible way of opening them up emotionally and causing them to relate to the soldiers on the stage. It was a way of invoking pathos without becoming overly sentimental. Littlewood's style of theatre was also supposed to be accessible. Since her early days in street theatre in the 1930s she had hated and fought against what she thought of as stuffy, confined British theatre, thinking that above all things theatre should be fun. This is important when thinking about *Oh! What a Lovely War* because for Littlewood this was a show about the common soldier, the common man. Through these production choices it wasn't just about them, it was for them too.

Joan Littlewood won the Evening Standard Drama Award in 1964 for directing Oh! What a Lovely War

How did Oh! What a Lovely War's archive come to be collected and donated to the British Library?

The British Library acquired Littlewood's personal archive in 2015, which contained a vast amount of Theatre Workshop material, including *Oh! What a Lovely War* material such as scripts, photos, notebooks, songbooks and research material.

In 2020 the British Library also acquired the Theatre Royal Stratford East Archive, which brings together the material previously housed at the theatre with Littlewood's own collection, making an extensive and complete Theatre Workshop archive. The material at the theatre had been gathered, sorted and protected by Melvin, who then worked with us to have it brought into the library.

There are 14 boxes of material from the Theatre Royal's archive in the British Library relating to the original production. What pieces stand out for you?

There are 14 boxes in the Theatre Royal Stratford East collection and a further ten in the Joan Littlewood Archive. I think the letter from Bertrand Russell is a very important piece in the collection and I never fail to be affected by reading it. I am also drawn to some of the props, in particular the doll that was used by the actor Fanny Carby in the original production. The doll is one of the items that came in with the archive collection from the Theatre Royal and there is something very tangible about it. I can't help thinking of the original cast when I see it.

One of my favourite items has to be a Christmas card that Joan and Gerry sent at the end of 1963. The card folds out to reveal an image of the 'ticker-tape' famously used in the production. The combination of the Christmas wishes with the use of the 'ticker-tape' and thus a reminder of the play is such a contrast.

From what I know of them through the archive and the things I've read and heard it also strikes me as a very Joan and Gerry thing to do.

How did the musical change perceptions of the First World War?

That's difficult to measure, but I do think *Oh! What a Lovely War* became part of the questioning and revising perceptions of the World Wars that have happened since they occurred.

Oh! What a Lovely War wasn't the first piece to critique the First World War because soldiers were writing from the front lines. It also wasn't the first thing performed or published that did but it became a huge part of doing so by presenting the message so clearly.

It's important to think about *Oh! What a Lovely War*'s reach. It was first performed in Stratford in the East End and it presented its message with Pierrot costumes and music hall songs. It was a message that anybody could understand. I think of Russell writing in his letter to Raffles: "'Oh What a Lovely War' brings war within our grasp, which is immensely difficult."

To find out more about the musical and to read a full article by Eleanor Dickens about Joan Littlewood visit: www.bl.uk

Images: Alamy, Getty

MUSEUMS & EVENTS

Discover The Tank Museum's centenary celebrations, the Rijksmuseum's acclaimed Vermeer exhibition and Newcastle-upon-Tyne's formidable namesake fortress

Tank Museum 100

The world's largest armoured warfare museum is celebrating 100 years of tank conservation with a packed summer festival

The Tank Museum's arena will once again host incredible displays at this year's TANKFEST

Images: The Tank Museum

A serving British Army tank driver shows visitors around the Challenger 2 at TANKFEST 2022

The museum's Matilda II and Churchill Mk III tanks pictured in the restoration workshop

During its restoration, a fire caused serious damage to the Sd Kfz 164 Nashorn but it was repaired and nicknamed the Phoenix

Located at Bovington Camp in Dorset, The Tank Museum contains the largest collection of tanks and third-largest collection of armoured vehicles in the world. Vehicles among its collection include a British Mark I, the oldest surviving combat tank from the First World War, and Tiger 131 which is the only working example of a German Second World War Tiger I tank.

This year marks the centenary of the museum's establishment. In 1923 the writer Rudyard Kipling visited Bovington and saw damaged tanks that had been salvaged at the end of the First World War. Kipling recommended that a museum should be set up and a shed was constructed to house the collection. However, it was not until 1947 that the museum was opened to the public.

To mark the centenary, The Tank Museum is holding its annual TANKFEST festival during 23-25 June 2023 with an impressive line-up of vehicles to celebrate. Confirmed guest vehicles so far include the German Second World War Sd Kfz 164 Nashorn and Jagdpanzer 38 Hetzer tank destroyers, a replica Panzer I and a French AMX-13 Cold War tank.

More announcements for the line-up are expected in the run up to the event. Of particular excitement to fans of British armour will be the expected show debut of a newly restored Centaur tank, which was a close relation of the Cromwell tank. Meanwhile, The Tank Museum Workshop team is working to ensure that its Churchill Mark III and Matilda II will all be ready to join the other vehicles for the show. The Royal Armoured Corps will also be in attendance with a range of service vehicles, including the Challenger 2 battle tank.

For 2023 there will be Curated Arena Displays, designed by curator David Willey. The new displays will tell the century-long story of the tank in terms of the efforts made to counter it on the battlefield, focussing on the key lessons and developments from each era.

The programme will feature a segment about the very first tanks, tanks from the 1920s-30s, three separate displays on the Second World War, followed by the Cold War, new threats in modern warfare and the British Army Display. The audience will be treated to a series of displays more engaging and dynamic than ever before – with an emphasis on demonstration and spectacle.

Visitors can make the most of TANKFEST with a multi-day ticket and save up to 20 percent with a two or three-day ticket.

For more information and the full programme visit www.tankfest.com

Officer and Laughing Girl

The Netherlands' national museum is hosting a special exhibition dedicated to Johannes Vermeer: an iconic artist who was also a militiaman

Described as an "unmissable feast" and "a chance of a lifetime" by *The Guardian*, the Rijksmuseum's Vermeer exhibition is the largest of its kind. It has assembled 28 paintings by the enigmatic Johannes Vermeer (1643-75) into one special exhibition during 10 February to 4 June 2023. These paintings form the vast majority of the Dutch master's 34 universally attributed works.

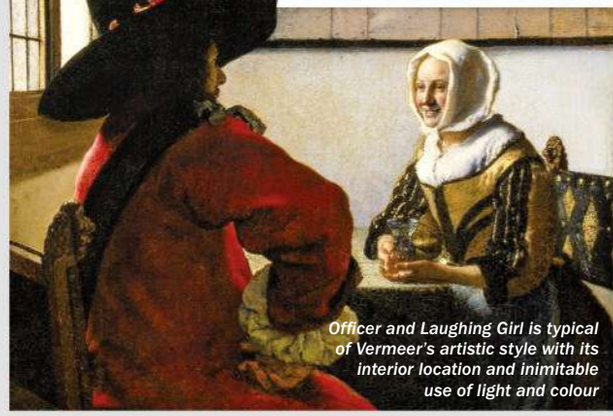
Best known for *Girl with a Pearl Earring*, Vermeer also had military connections. A member of the Schutterij (citizen militia) during the Franco-Dutch War and Third Anglo-Dutch War of the 1670s, he was unable to sell his art during these destructive conflicts and struggled financially.

One of Vermeer's lesser-known paintings on display will be *Officer and Laughing Girl*. Painted before his wartime struggles, in c.1657, the painting shows a man and woman engaged in conversation. The man is a dashing soldier who dresses in the style of the Dutch West India Company, with his crimson jacket and black sash indicating his status as an officer. The sash is also a bandolier that holds his ammunition. The map on the wall is of Holland and West Friesland, which perhaps alludes to the soldier's duty to his homeland.

Usually exhibited in The Frick Collection, New York, the painting is triumphantly returning to the Netherlands and casts a unique light on the military culture of the Dutch Golden Age.

To book tickets for the Vermeer exhibition visit www.rijksmuseum.nl

As well as Vermeer's paintings, the Rijksmuseum displays artworks by other Dutch masters including Rembrandt van Rijn and Frans Hals



Officer and Laughing Girl is typical of Vermeer's artistic style with its interior location and inimitable use of light and colour

Images: Alamy

The Castle

Newcastle-upon-Tyne is named after a medieval fortress whose keep still exists. Today it is local tourist attraction and venue

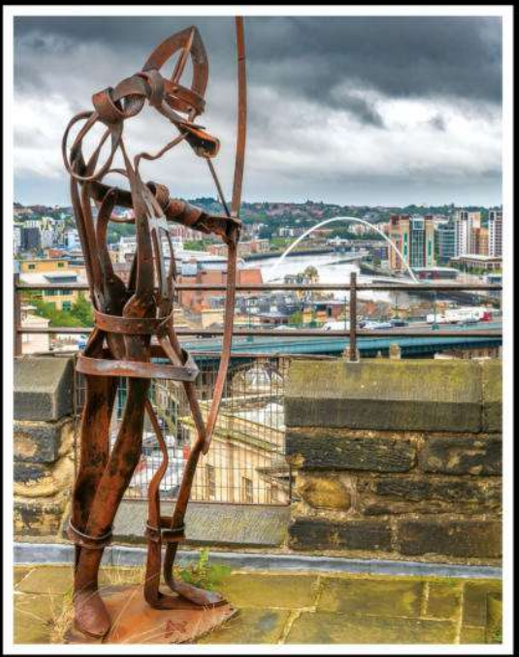
Newcastle-upon-Tyne is the most populous city of North East England. Forming the largest part of Tyneside, the city is named after a castle built in 1080 by William the Conqueror's eldest son, Robert Curthose, Duke of Normandy. Known as The Castle, Robert's fortress was originally made of wood before King Henry II of England constructed the stone Keep during the 1170s.

Further additions were made in the 13th century but the Keep is the only substantial part of the fortress to survive. An important fortress to defend against Scottish forces, The Castle saw much action, including a three-month siege during the First English Civil War in 1644.

Now a Grade I listed building, the Keep and nearby Black Gate are open to the public. It acts as a museum, wedding venue and even hosts theatre shows and films. The Castle's facilities include an education centre, gift shop and audio-visual installations.

The Castle is unusual for having the London North Eastern Railway running directly through the centre of the grounds. The battlements also offer fine views over Newcastle Cathedral and the River Tyne quayside. The Keep is said to be one of England's most-haunted castles, and can additionally be hired out for paranormal investigations.

For more information visit www.newcastlecastle.co.uk



***Left:** The Defender of the Keep archer sculpture overlooks the River Tyne from the roof of the castle*

The Keep is located in Newcastle's city centre with a major railway line positioned directly alongside it

Images: Alamy

WWII THIS MONTH...

APRIL 1943

To commemorate 80 years since the Second World War, **History of War** will be taking a look at some of the key events taking place during each month of the conflict

WARSAW GHETTO UPRISING

On 19 April 1943, the largest single revolt by Jews against the Nazis during the Second World War began in the Warsaw Ghetto. When Nazi forces attempted to deport its surviving inhabitants they met unexpected resistance. Approximately 700 Jewish insurgents, who had been armed by the Polish Home Army, fought a fierce urban guerrilla campaign they knew they couldn't win.

The ghetto's civilian population also resisted by hiding in underground bunkers or refusing to assemble at collection points. SS police commander Jürgen Stroop ordered the burning of the ghetto but the fighting continued until 16 May 1943. Around 7,000 Jews died in the uprising, with 7,000 more being captured and deported to Treblinka extermination camp.

Images © Alamy, Getty

OPERATION VENGEANCE

Conducted on 18 April 1943, Operation Vengeance was an American special mission to kill Admiral Isoroku Yamamoto during the Solomon Islands Campaign. The commander-in-chief of the Imperial Japanese Navy's Combined Fleet, Yamamoto had masterminded the attack on Pearl Harbor in 1941 as well as commanding at the Battle of Midway.

US naval intelligence discovered Yamamoto's travel itinerary, including a flight he would be taking on 18 April to an airfield near Bougainville Island. Eighteen United States Army Air Force P-38 Lightnings flew out to intercept the admiral and Yamamoto was killed when his Mitsubishi G4M aircraft was shot down over Bougainville.

Left: *Admiral Isoroku Yamamoto, pictured in a white uniform, inspects Japanese pilots at Rabaul, New Britain, shortly before his death*

Jewish men, women and children are forcibly removed from a location in the Warsaw Ghetto in what became one of the most infamous photographs of WWII

TIGER 131

The Tiger I was a German heavy tank that first entered service in 1942. It had a powerful 3.5in (88mm) gun and its 4in (100mm) frontal armour was immune to Allied gunfire. Considered one of the most formidable tanks in the world, the Tiger I was demonstrated to Adolf Hitler on his birthday on 20 April 1942.

It was not until 21 April 1943 that a Tiger I fell into Allied hands when Tiger 131 was captured by the British 48th Royal Tank Regiment at Medjez al Bab in Tunisia. It had been abandoned after a firefight, with Tiger 131's capture considered to be highly important. It was discovered that the tank's engineering was overly complicated and its aura of invincibility was shattered. Tiger 131 was inspected by King George VI and Winston Churchill in Tunis before being shipped to Britain as a trophy.

Tiger 131 is the most popular exhibit at The Tank Museum in Dorset and is the only remaining working Tiger tank in the world

TWENTIETH CONVOY ATTACK

On 19 April 1943, 233 Jews were freed from a train that was transporting them to Auschwitz by members of the Belgian Resistance. Belgium's Jews were being transported out of the country from Mechelen transit camp, with the attack coinciding with the 20th convoy to leave.

Three Resistance members (including a Jewish doctor) managed to stop the convoy carrying over 1,000 Jews only a few miles from Mechelen between Boortmeerbeek and Haacht. They opened a wagon to let people out while the train driver slowed down to enable more to flee. Of the 233 people who successfully escaped, 118 survived. The attack was the only mass breakout of prisoners from a train during the Holocaust.

Left: *A monument commemorating the Belgian Resistance in Liège, Belgium*

KATYN MASSACRE DISCOVERY

During April-May 1940, 22,000 Polish military officers and intelligentsia were murdered in a series of mass executions following the Nazi-Soviet invasion of Poland. Conducted by the NKVD, the Soviet secret police, the killings took place in various locations in Russia and Ukraine, including the Katyn Forest near Smolensk.

After the Soviet Union joined the Allies in 1941, Joseph Stalin assured Polish Prime Minister Władysław Sikorski that the Polish prisoners had been freed. However, on 13 April 1943 Nazi broadcasters revealed that German forces had discovered mass graves in Katyn. Although the Soviets immediately blamed the Nazis for the massacres, several international committees unanimously concluded that the NKVD was responsible.

The Nazis used their discovery of the Katyn Massacre as propaganda against the Soviet Union, despite the fact they had jointly invaded Poland in 1939

REVIEWS

Our pick of the latest military history books

DARK WATERS, STARRY SKIES

THE GUADALCANAL-SOLOMONS CAMPAIGN MARCH-OCTOBER 1943

THE DESPERATE FIGHT FOR CONTROL OF THE SOLOMON ISLANDS IS RECOUNTED WITH ENERGY AND INSIGHT

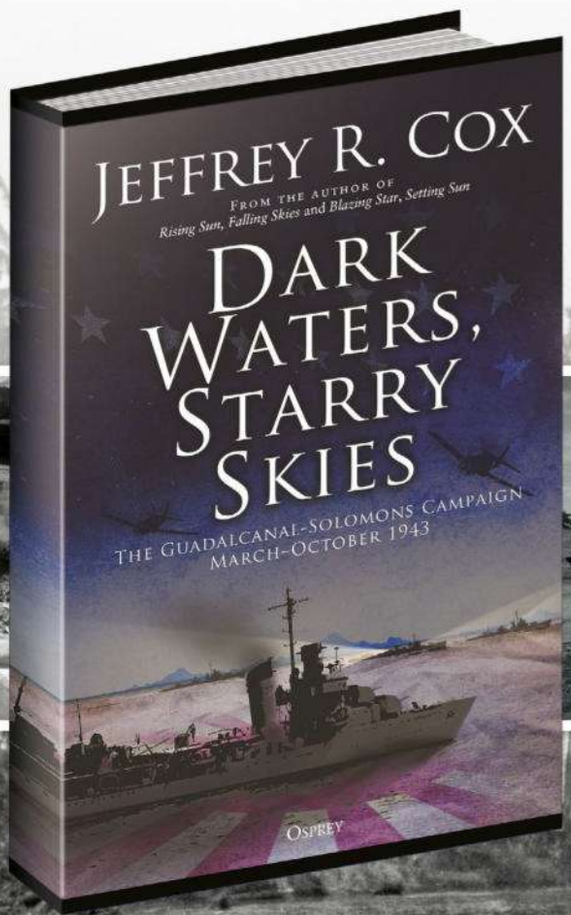
Author: Jeffrey R Cox **Publisher:** Osprey Publishing **Price:** £27 (Hardcover), £18 (Kindle)

The military component of the Japanese grand design for hegemony on the Asian continent and in the Pacific had begun with tremendous success. The imperial juggernaut subjugated great swaths of territory in China and elsewhere while the defensive ring of the burgeoning empire extended to the south and east through mid-1942.

However, the subsequent Japanese attempt to isolate Australia and threaten Hawaii with invasion was beaten back, first during the June 1942 Battle of Midway and then in the epic fighting for control of the island of New Guinea and the Solomons archipelago, initially at Guadalcanal. While the landings on Guadalcanal constituted the first US ground offensive of the Second World War in the Pacific, the brutal contest lasted six months from August 1942 until the Japanese evacuation the following February.

With their victory at Guadalcanal, the Americans had perhaps seized the initiative in the Solomons, but much fighting remained. The period that followed the occupation of 'Starvation Island' is capably recounted by veteran author and historian Jeffrey R Cox in his latest work, *Dark Waters, Starry Skies: The Guadalcanal-Solomons Campaign March-October 1943*. Although the Americans had succeeded in wresting control of Guadalcanal from the Japanese, thorough and complete victory remained in doubt during these crucial months, and Cox sets the stage for the focus of his narrative, advising the reader of the encounters on land, sea and air that characterised the struggle for Guadalcanal. He then launches into a compelling discourse on the critical months that ensued, a period perhaps somewhat overlooked in the grand sweep of the Pacific War.

Cox has obviously devoted tremendous time and effort to the research and writing of this highly informative entry from Osprey Publishing, which runs to a hefty 527 pages including notes and index along with a centre section of photo plates and maps. The depth of his commitment is apparent in the detail of the presentation. In contrast to other histories of the period that are painted with a broad brush, this author delivers tales of the fighting that satisfy the history enthusiast who already possesses some knowledge of the topic while also enticing those just being introduced to devour more of its content.



An American landing ship burning off Guadalcanal after being hit by a Japanese bomb, on 16 June 1943

A US Marine Corps F4F Wildcat fighter plane at Henderson Field on Solomon Islands, 1943.

US Marines cross a body of water on an evening patrol during the Battle of Guadalcanal in the Solomon Islands

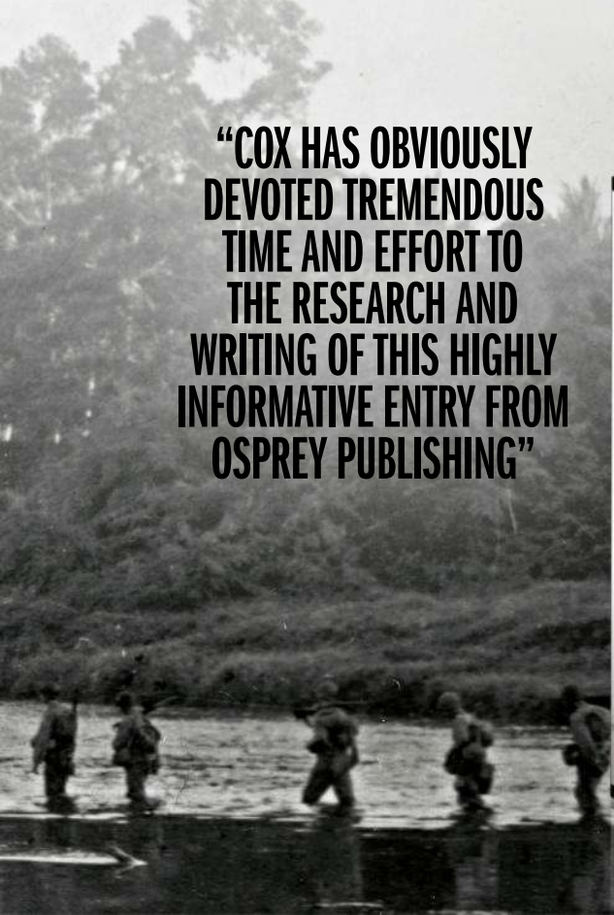
© Alamy

For example, Cox draws on the wartime saga of the Japanese Navy destroyer Akikaze, from convoy escort and patrol duties to its crew's participation in a clandestine atrocity – the heinous murders of dozens of Christian missionaries and lay people, even infants, aboard the warship.

Cox further displays his mastery of the subject matter in another account, that of the death of Admiral Isoroku Yamamoto, commander-in-chief of the Imperial Japanese Combined Fleet and architect of the December 1941 attack on Pearl Harbor. Yamamoto was killed on 18 April 1943 when the Mitsubishi G4M 'Betty' bomber in which he was a passenger was shot down over the island of Bougainville by American Lockheed P-38 Lightning fighter planes.

American intelligence intercepts had brought the opportunity to light, and Cox tells the story with verve. He also stirs up a controversy that has persisted since Yamamoto's death. Two US Army Air Forces P-38 pilots, former friends, each claimed to have shot down the infamous admiral. Cox clearly gives his nod to Lieutenant Rex T Barber rather than Captain Thomas G Lanphier Jr, writing: "Lieutenant Barber… had seen both Bettys, he shot down one and saw it fall toward the jungle, then he finished off an already damaged second."

Drawing on vivid recollections from participants in the great struggle for the Solomons and from other primary sources, Cox delivers a fast-paced, detailed and highly readable account of the pivotal struggle in the South Pacific. The reader will find *Dark Waters, Starry Skies* a rich and rewarding experience. **MH**



"COX HAS OBVIOUSLY DEVOTED TREMENDOUS TIME AND EFFORT TO THE RESEARCH AND WRITING OF THIS HIGHLY INFORMATIVE ENTRY FROM OSPREY PUBLISHING"

DAZZLE, DISRUPTION & CONCEALMENT

DISCOVER HOW MERCHANT AND NAVAL VESSELS IN THE TWO WORLD WARS WERE PROTECTED USING THE SCIENCE, PSYCHOLOGY AND ART OF SHIP CAMOUFLAGE

Author: David L Williams **Publisher:** The History Press
Price: £30 (Hardback)

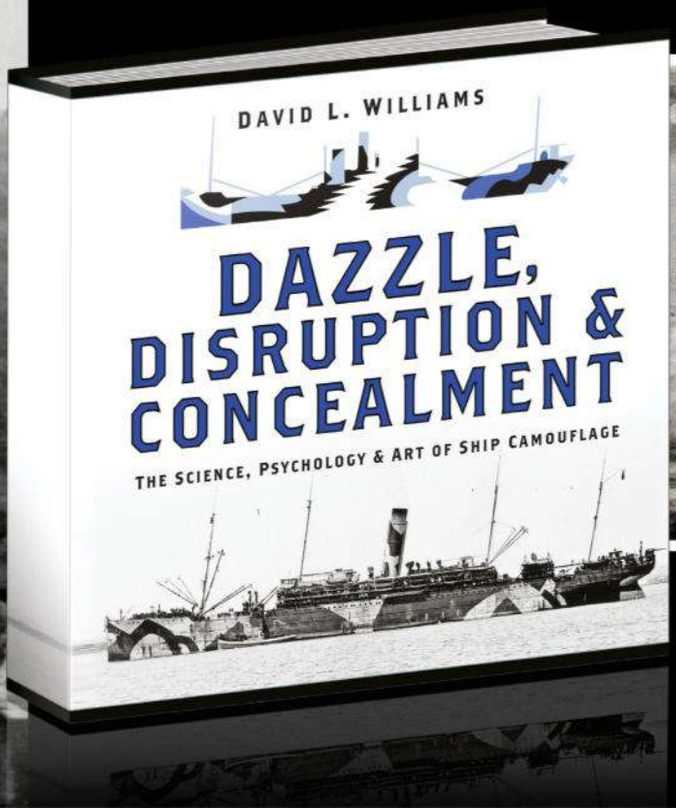
Warfare is primarily seen as a match of force. But as David L Williams points out in his book, other equally crucial factors can come into play, such as camouflaging battle equipment from the enemy. The title of the book's first chapter – *Hard to See, Hard to Hit* – sums up in a few words the rationale behind this endeavour.

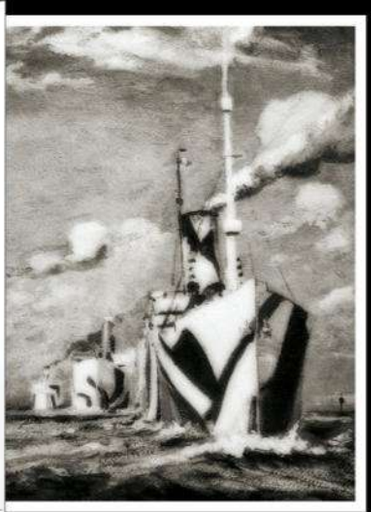
Prior to the First World War, the concept of camouflage had only been implemented on rare occasions. It was the changing character of warfare and weaponry that demanded the adoption of a comprehensive means of visual secretion for fighting forces and all forms of military equipment as well as strategic structures.

Dazzle, Disruption & Concealment focuses on painted ship camouflage as it emerged and evolved from the final years of the 19th century. Light, colour and vision comprise the three core physical processes of camouflage practices, and Williams delves into the role of each in disguising a ship from the enemy. The book benefits from a lavish and extensive selection of photos and drawings that illustrate the different types of camouflage used to deceive the enemy.

The principal objectives of ship camouflage, the author explains in a highly readable narrative, remained unchanged after the First World War: low visibility, disruptive course distortion, background blending and structural flattening.

Painted camouflage effectively became superfluous due to the increasing use and greater sophistication of radar systems. This notwithstanding, the pioneering naval camouflage schemes introduced in the First World War and their continued and widespread use during the next global conflict would suggest they were indeed an effective tactic for saving ships and lives. **JS**





The objectives of ship camouflage were low visibility, disruptive course distortion, background blending and structural flattening

100 GREATEST BATTLES

A BLITZING RUN THROUGH SOME OF THE BIGGEST AND MOST SIGNIFICANT CLASHES IN THE HISTORY OF WARFARE

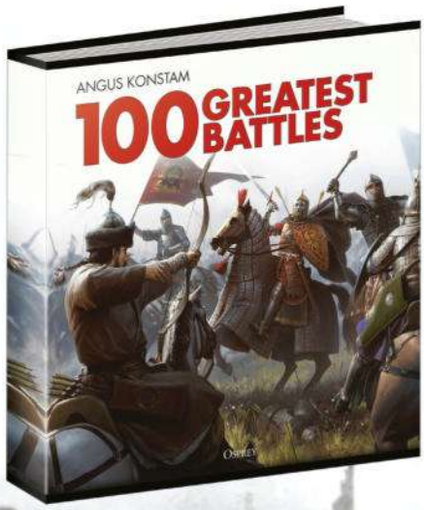
Author: Angus Konstam **Publisher:** Osprey Publishing **Price:** £14.99 (Hardback)

As you might have guessed from its title, this book is essentially a compilation of the most significant military clashes throughout history. On opening its cover, however, the most obvious question that springs to mind is how on Earth did its author Angus Konstam decide whether a battle was 'great' enough to make the cut? And certainly, an initial scan of the contents pages reveals some interesting omissions. Where, for example, is Alexander's famous victory over the Persians at The Battle of Gaugamela in 331 BCE? Or Jean of Arc's liberation of Orléans in 1429? There is no room, either, for Hitler's downfall at the Battle of Berlin in 1945. There are also some interesting inclusions, not least the 1945 bombings of Hiroshima and Nagasaki, neither of which can really be described as battles in the strictest sense of the word.

To be fair to Konstam, he does address this question in the book's introduction before going on to reveal the criteria he used to make his selection. For a battle to be included, he explains, its impact or outcome had to be "significant enough to change the course of a war, or a campaign… or at least mark a major turning point in a conflict". All of which is reasonable enough but does little to resolve the issue of subjectivity.

But what about the book itself? This compact, richly illustrated work has a real old-school charm about it. Arranged chronologically, it explores the significant battles of nine distinct eras. Starting with the ancient and medieval worlds, it traces history's line through the Renaissance and the Age of Reason, via the time of Napoleon and the Age of Empires to the wars of the 20th century. Although a distinct Eurocentric bias dominates much of the book, there are some surprising exceptions such as the great samurai showdown at the Battle of Sekigahara in 1600 and the defeat of the Aztecs (albeit by the Spanish) at the Battle of Tenochtitlan in 1521.

Without the space for a more in-depth examination, each entry is essentially a (very) condensed history. Most come in at around the 700-word mark and take no more than a couple of minutes to read. Konstam, however, does manage to cram in a lot of detail. As a result, the writing can be a little dense in places but there's no arguing with the amount of value this book offers – not least because each entry is accompanied by a bespoke colour illustration.

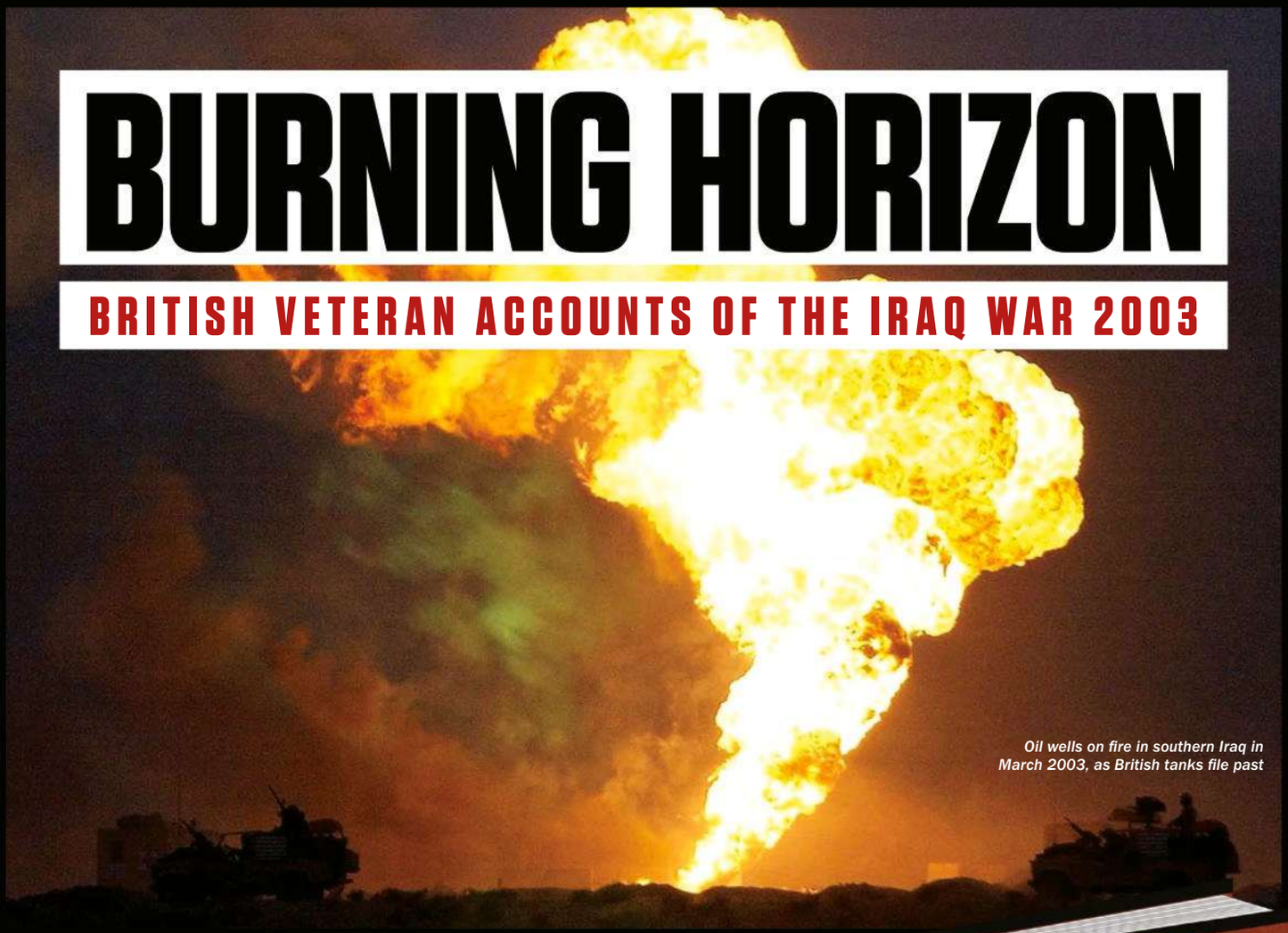


Ultimately, settling upon any kind of objective list for a book of this nature was always going to be an impossible task. Having said that, Konstam has made a good job of providing one that is as close to conclusive as is perhaps possible. From Marathon and Hastings to Trafalgar, Waterloo, The Somme, Stalingrad and the Siege of Khe Sanh, many of the big-name battles are here. This makes *100 Greatest Battles* the ideal choice for dipping in and out when you need a quick hit of military history. **NS**

Troops pick their way through the ruins of Stalingrad, during the fierce battle for the city in 1943, which saw the collapse and capture of Germany's Sixth Army

BURNING HORIZON

BRITISH VETERAN ACCOUNTS OF THE IRAQ WAR 2003



Oil wells on fire in southern Iraq in March 2003, as British tanks file past

A THOROUGH AND FASCINATING ACCOUNT OF THE 2003 INVASION OF IRAQ TOLD THROUGH INTERVIEWS WITH A MYRIAD OF BRITISH VETERANS FROM ALL THE SERVICES INVOLVED, INCLUDING THE OFTEN FORGOTTEN RESERVISTS

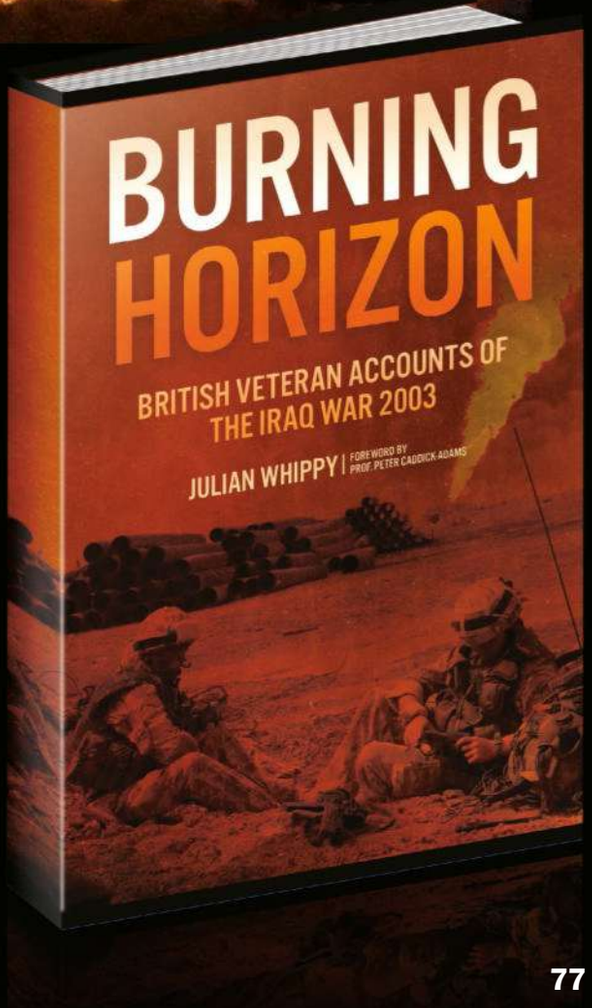
Author: Julian Whippy **Publisher:** Casemate
Price: £29 (Hardback)

The 2003 Iraq War was the most controversial conflict the United Kingdom had been involved in for over 50 years. Sensitivities – and Ministry of Defence (MOD) restrictions – have meant that the story of the war has almost solely been told from an American perspective, and this lack of a British view is what the author seeks to redress in his book.

Author Julian Whippy is clearly extremely knowledgeable about the British military and has taken the time to interview a host of veterans from the Army, Navy and Air Force, at all levels of rank and from every area involved, be it fliers, medics, engineers or infantrymen. The picture painted begins with the run up to the war, although to his credit Whippy doesn't focus on the politics and the arguments, but rather views the build up through the eyes of those who were going to end up dealing with the consequences.

The book really gets into its stride as it describes the chaotic and sometimes incompetent movement of troops and equipment out to the Gulf. This section in particular will make for uncomfortable reading for MOD mandarins and politicians. However, the heart of the book is the main period of operations between 20 March and 30 April, in the south of Iraq around Basra, where 33 UK service personnel lost their lives. This is where Whippy's narrative comes to life with often gripping and always fascinating first-hand accounts of heavier fighting than the war is generally remembered for. **JT**

"THE 2003 IRAQ WAR WAS THE MOST CONTROVERSIAL CONFLICT THE UNITED KINGDOM HAS BEEN INVOLVED IN FOR OVER 50 YEARS"



Images © Alamy, Getty

DID ANCIENT ROME FIELD 'SPECIAL FORCES'?

While the organisation, training and equipment of Rome's legions were key to their dominance, there were also specialists at work in the shadows who were often critical to victory. Were they the ancient equivalent of today's elite military?

Julius Caesar, the leading late-Republican Roman warlord, made extensive use of speculatores and exploratores in his conquest of Gaul in the 50s BCE

WORDS **DR SIMON ELLIOTT**

The legions of Rome were pre-eminent in a world where, more often than not, they won on campaign and in battle. This is the Roman military most recognisable to the general public, its legionaries resplendent in their fine armour and bright-crested helmets. And yet, behind the scenes, clandestine activities were always underway, often deep behind enemy lines. Today, some would be called special operations, performed by elite troops; their aim was to provide vital intelligence through stealthy reconnaissance, disrupt chains of command and lines of supply, and assassinate opposing decision-takers.

In the modern world such troops are called special forces, with students of Roman military history familiar with a whole raft of enigmatic names used to describe these elite warriors. Think of the frumentarii, speculatores, exploratores, protectores domesticii and areani. But were they really, as we now define them, special forces?

In my recently published *Roman Special Forces & Special Ops* I tested whether any of the above, together with other specialist units, were actually special forces. This is a task more difficult than it sounds. For example, while the name is one of the most widely known military terms today, it is also one of the least understood. Names like the Special Air Service immediately spark attention and interest. Yet there is often a huge misunderstanding about the role special forces fulfil, especially by politicians keen for 'free lunch' solutions to complex foreign policy issues.

To determine whether these elite Roman units really were akin to modern special forces, I applied four key criteria:

- **Elite volunteers, chosen through a demanding selection process.**
- **Uniquely trained for non-regular warfare, with special skill sets, a bespoke esprit de corps and access to specialist equipment.**
- **Used to secure operational and strategic advantage rather than for normal military operations – they were not merely elite combat units fielded in the normal line of battle.**
- **Un-uniformed, or able to be totally deniable by their commanders.**

In my research I then set these four criteria against the five elite Roman unit types detailed earlier, plus others, to see whether on balance any could be called special forces today.

As a starting point, I immediately ruled out some of the better-known Roman premier troop types, for example Praetorians and other guard units. Further, I also rule out other categories of specialist Roman troops, including the procursatores scouts who ranged immediately ahead of a campaigning force in the field, and the pioneers who travelled ahead of the legionary spearheads to set out marching camps.

The first candidate I seriously considered were the frumentarii, and their later less well-known replacements, the agentes in rebus and notarii. These were the official state-level intelligence gathering operatives of the Roman Empire, reporting directly to the emperor and his consilium principis advisory council. Surprisingly, during the Roman Republic and early empire there was no official Roman secret service, the state keen instead to focus on martial prowess. This attitude was rooted in Rome's early Republican history when the central apparatus needed to effectively run such an operation

ran counter to Roman ideals of oligarchical government. This outlook began to change in the reign of Augustus who, as last man standing in the late Republic civil wars, was acclaimed Rome's first emperor by the Senate in 27 BCE. He began to use a network of informal spies and informers called delatores to maintain himself in power, though he still shied away from formalising the operation. This was left to the ill-favoured Domitian, last of the Flavian emperors at the end of the 1st century CE.

Increasingly unpopular in Rome, Domitian carried out reforms of the apparatus of imperial government, aiming to accrue more power. This included restructuring the frumentum supply section of the praetorium imperial general staff, the former's name derived from an early Roman term for wheat distribution. It is from here he chose to establish his new, formal secret service. Its new members were recruited from the logistics specialists based in the frumentum; these were often former soldiers of non-commissioned officer rank, where they were already known as frumentarii. This now became the name for Rome's first official secret agents.

As the empire transitioned from this earlier Principate phase to the later Dominate phase, the frumentarii disappeared, to be replaced in the reign of Diocletian (284 – 305 CE) by two specific types of state-level intelligence operatives. These were the agentes in rebus and notarii. Here we can see the emergence of something more akin to a modern secret service, with the former tasked with direct action against enemies of the state, and the latter the investigative branch. Both were far more integrated into the Roman military establishment than their frumentarii forebears. However, when set against the special forces criteria, while most of the frumentarii, agentes in rebus and notarii were of the deniable type, and many were elite volunteers, the personnel so engaged were not uniquely trained for non-regular warfare, particularly as their main focus was internal affairs. Additionally, they were certainly not used to secure operational and strategic advantage in conflict, unless in a civil war context.

My next candidates are the speculatores and exploratores, which I consider together because when the names first appear in the mid-Republican period they are often interchangeable. Both were tasked with gathering military intelligence rather than state-level intelligence, though as time wore on the former focused more on this work at a tactical level, and the latter at a strategic level.

The name speculatores originated with the Latin 'specula' meaning 'watchtower' or 'lookout post', a common term used across the empire. When the term first appeared in the context of military units in the mid-Republican period, it was used to describe a number of different roles among the ranks of legionaries, including long-range scouts, bodyguards, military policemen and executioners. However, by the time of Julius Caesar in his Gallic conquests in the 50s BCE it was specifically being used for tactical military intelligence specialists. For example, he details the use of his speculatores when campaigning against the Belgae Nervii in northern Gaul in 57 BCE, one of the most difficult campaigns in his

"THE EXPLORATORES' CLEAR FOCUS WAS ON GATHERING STRATEGIC-LEVEL MILITARY INTELLIGENCE, INCLUDING DEEP RECONNAISSANCE"

Gallic Wars. Here, they were used to scout escape routes for his force out of a wide river valley where they had been fixed in place by a much larger Gallic army. This speculatores succeeded, allowing Caesar to slip away and later gather his entire army; he ultimately defeated the Nervii in the Battle of the Sabis.

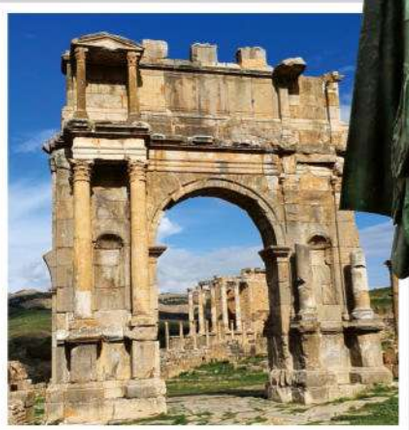
Later, under Mark Antony as the late-Republican civil wars reached their peak, we have coins minted which specifically reference units of speculatores alongside other coins referencing specific legions. This shows that by this time they were an established component of the Roman military machine, where they were to remain until the later Principate when they are last referenced in their specialist role. The name did reappear in the later empire, though by then it had gone full circle to again be a catchall for specialist troops.

Meanwhile, the name exploratores originates from the Latin 'explorare', meaning 'those who seek, explore or investigate'. Once clearly differentiated from the speculatores in the late-Republican period, they were best known for their independent deep reconnaissance/strike and frontier surveillance roles in the Principate and Dominate phases of empire. For example, in 15 CE Germanicus utilised their deep reconnaissance skills when determining his Germanic Marsi opponents were celebrating a religious festival. He then ordered an immediate strike with 12,000 legionaries and 34 cohorts and squadrons of auxiliaries, massacring the Germans and exacting revenge for the earlier 9 CE Varian Disaster in the Teutoburg Forest.

Later in Britain, Tacitus details that in 83 CE Agricola used his exploratores to guide him and his relief force deep into enemy territory to rescue the hard-pressed Legio IX Hispana who were in danger of being over-run in their marching camp in the far north. Later, as the northern frontier in Britain was formalised along the line of Hadrian's Wall, units of exploratores started to appear as permanent residents in the Roman forts in the north. These included those at High Rochester (Roman Bremenium), Risingham (Roman Habitancum) and Netherby (Roman Castra Exploratorum – note the explicit reference in this name).

As the empire progressed, the exploratores were increasingly recruited directly from native peoples along imperial frontiers, such as along the Rhine. For example, a Merovingian tomb excavated in Heidelberg in 1901 contained five Roman gravestones, one of which was that of an explorator called Respectus whose father was called Berus, a Suebian name meaning 'bear'. Units of exploratores are last mentioned in their deep reconnaissance and strike role in the early Dominate phase of empire. As with the speculatores, the name reemerged in the late empire, though again in a different role. Here, they were now detailed as border guards similar to later Roman limitanei.

When we consider speculatores and exploratores against our special forces criteria, we get different results. With the former, at certain times they did go through a demanding selection procedure, were sometimes used to secure operational advantage, and occasionally (though not often) were deniable. However, they were not trained for non-regular warfare. Therefore, I argue they weren't special forces. However, we are on much firmer ground with the exploratores. By the time they were fully established, their clear focus was on gathering strategic-level military intelligence, a role including deep reconnaissance and strike. By my criteria, there was a demanding selection procedure to join the exploratores, with such warriors expected to operate independently deep in enemy territory. The exploratores were also trained in non-regular warfare techniques, helped secure operational and strategic advantage, and similarly assisted the defence of the frontier by disrupting enemy offensive operations and providing intelligence deep from within the



***Below:** The Arch of Caracalla in Djemila, Algeria. The Severan emperors made extensive use of special forces in their many campaigns across the Roman Empire*

***Below:** The granary at Housesteads Roman fort on Hadrian's Wall, operating base for Roman special forces along the northern frontier in Britain*

Julius Caesar's victory monument in Hippo Regis, modern-day Annaba in Algeria. Caesar made extensive use of his speculatores in his civil war campaigns in North Africa

enemy interior. Finally, they were also deniable. Therefore, I believe they were true special forces as we determine them today.

My next candidate unit are the protectores domesticii. The term first appeared in the reign of Gallienus in the later 3rd century CE when he reformed his senior officer corps at court into the protectores divinis lateris. Soon its members were also providing his close guard and being deployed on special missions. Over time they evolved into the protectores domesticii – specialists in gathering intelligence (alongside the agentes in rebus and notarii, this was a crowded field by this time), monitoring religious and ecclesiastical affairs, keeping an eye on provincial authorities, inspecting fabricae state armament manufactories, and acting as the emperor's enforcers and executioners. Our best-known protector is the key late-Roman historian Ammianus Marcellinus who served in both east and west in the role, particularly with the magister equitum Ursicinus, a very senior commander for Emperor Constantius II in the mid-4th century CE.

However, while the protectores domesticii were clearly special in that they were, among other things, elite guard troops who served alongside other late-Roman guard units and intelligence gathering personnel at court, very few served deep within non-imperial territory. Therefore, while clearly volunteers or recruits, trained for irregular warfare and deniable, they were not regularly used to secure operational and strategic advantage. As a result, I believe they were not special forces.

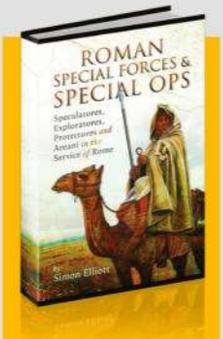
Finally, we have the enigmatic areani, a specifically late-Roman phenomenon in Britain. Here, they are detailed as frontier scouts operating in the modern-day Scottish Borders who excelled at night-time operations, though analogously they serve as an example of similar trends elsewhere in the empire. Our key source is again Ammianus Marcellinus, with the picture he paints of an increasingly grim situation in Roman Britain as it began its final spiral of decline. Within this story we have two references to areani – both in a negative context. First, the Emperor Constans made an outlandish mid-winter crossing of the English Channel in January 343 CE to deal in person with a military emergency, with Ammianus retrospectively alluding it was to do with the areani. Then we have the famous expedition to Britain by Theodosius in 367 CE to deal with a coordinated attack on the diocese of Brittaniae by Picts, Germans, Scots and Attecotti – dubbed the 'Barbarica Conspiratio' or 'Great Conspiracy'. Here, the areani were again involved, perhaps allowing insurgents to cross Hadrian's Wall unmolested or even aiding them. They certainly paid a price worthy of such disloyalty, being disbanded by Theodosius as soon as victory was secured. Based on the limited detail we have, the areani seem to have been unofficial exploratores. To that extent, they may therefore be considered special forces based on my criteria above.

To conclude, here I have considered a wide variety of candidate special forces units in the Roman military establishment. However, while all are elite in their own way, only the exploratores (and by default areani, if my analogous interpretation of Ammianus Marcellinus' descriptions is correct) meet a broad enough range of the criteria I set out at the beginning of this article to actually be called such.

***Below:** Emperor Hadrian consolidated the frontiers of the Roman Empire, including building Hadrian's Wall in Britain, which served as a springboard for Roman special forces into the Scottish Borders*

***Bottom, inset far left:** Tombstone of the Roman auxiliary cavalryman Flavinius of the Candidus troop of the Petriana regiment. The speculatores and exploratores operating north of Hadrian's Wall would likely have been equipped in this way when not undercover*

***Bottom, inset left:** Dr Simon Elliott in the Roman fort at Ardoch in Perth and Kinross, Scotland. Speculatores, exploratores and areani would have been based here, operating along the Highland line to detect native British incursions. Note the sequence of five defensive ditches*

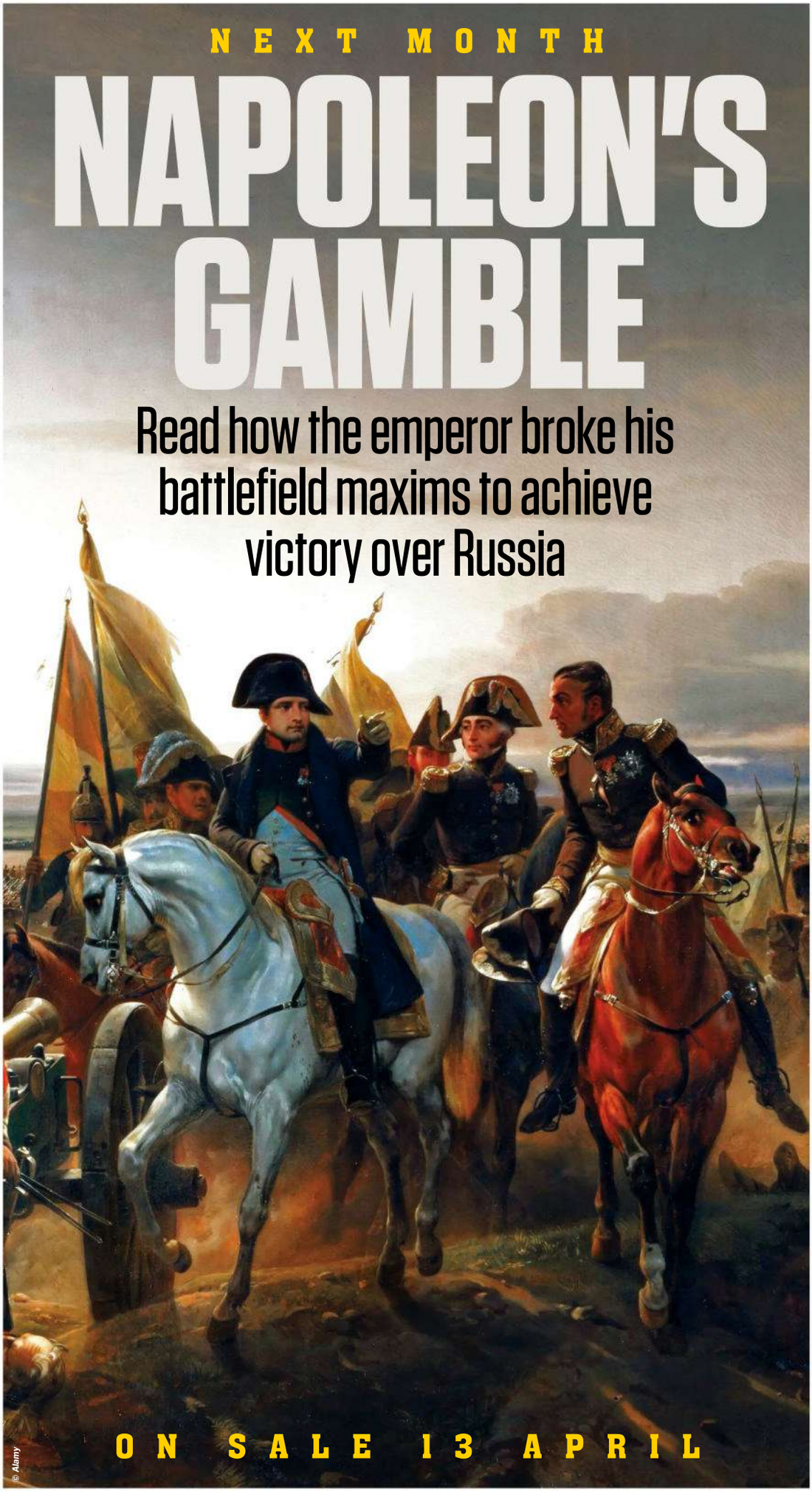


Dr Simon Elliott is an award-winning and best-selling archaeologist, historian and broadcaster. A trustee of the Council for British Archaeology and president of the Society of Ancients, he has published numerous books covering a wide range of ancient-world topics, most recently *Roman Special Forces & Special Ops* through Pen & Sword Books.

***Below:** Capitoline temple in Timgad, the Roman colonia for veterans, in modern-day Algeria. Retired speculatores, exploratores and protectores settled here after completing their service in nearby Lambaesis*

***Below:** The groma in the centre of the Roman legionary fortress at Lambaesis in modern-day Algeria. Located in the foothills of the Aures Mountains, this served as a base for speculatores, exploratores and protectores to operate to the south, securing Rome's southern frontier*

Images: Dr Simon Elliott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Printed by William Gibbons & Sons Ltd

Distributed by Marketforce, 5 Churchill Place, Canary Wharf, London, E14 5HU www.marketforce.co.uk. For enquiries please email: mfcommunications@futurenet.com

ISSN 2054-376X

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History of War (ISSN 2054-376X) is published monthly with an extra issue in October by Future Publishing, Quay House, The Ambury, Bath, BA1 1UA, UK. The US annual subscription price is $171.60. Airfreight and mailing in the USA by agent named World Container Inc. 150-15, 183rd St, Jamaica, NY 11413, USA. Periodicals Postage Paid at Brooklyn NY 11256 POSTMASTER: Send address changes to History of War, Air Business Ltd, c/o World Container Inc 150-15, 183rd St, Jamaica, NY 11413, USA. Subscription records are maintained at Future Publishing, c/o Air Business Subscriptions, Rockwood House, Perrymount Road, Haywards Heath, West Sussex, RH16 3DH, UK

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CETSHWAYO'S BELT

This British Army belt and ammunition pouch was gifted to the Zulu king during the Anglo-Zulu War and may have been recovered from the battlefield of Isandlwana

Images: Alamy, National Army Museum

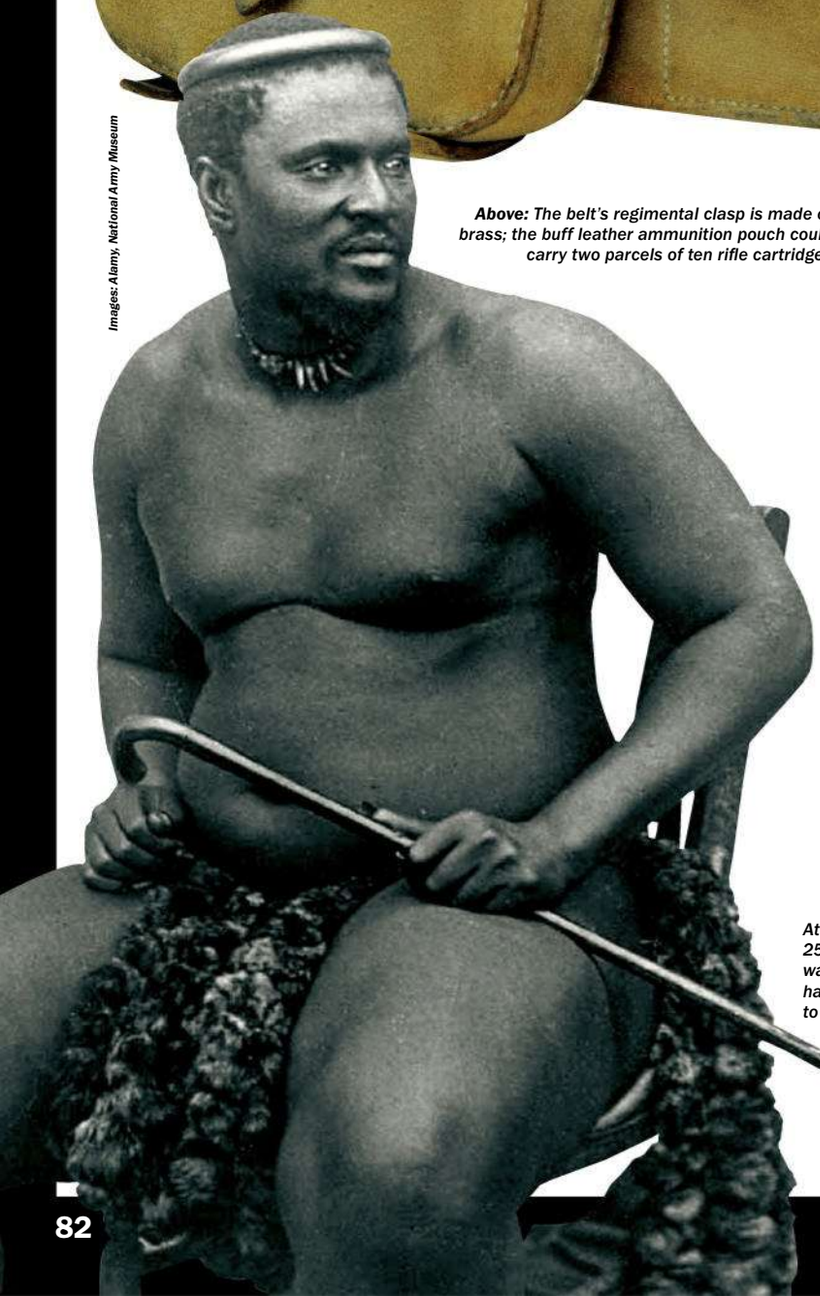
***Above:** The belt's regimental clasp is made of brass; the buff leather ammunition pouch could carry two parcels of ten rifle cartridges*

Cetshwayo kaMpande (1826-84) was king of the Zulu Kingdom during 1873-79 and served as commander-in-chief of its army during the Anglo-Zulu War of 1879. A nephew of the famous Zulu warrior king Shaka, Cetshwayo was an experienced soldier himself. He refused a British ultimatum to disband his army and war broke out on 11 January 1879.

When Lord Chelmsford invaded Zululand, Cetshwayo's warriors won a crushing victory at the Battle of Isandlwana on 22 January 1879. Twenty-thousand Zulus attacked a British camp of 1,800 men and destroyed it, killing over 1,300 of the garrison. Only around 60 European troops escaped, while Chelmsford's military reputation was ruined.

After the battle, the Zulus recovered large numbers of weapons and equipment, with some objects being sent back to Ulundi as trophies. When Major Richard Marter captured Cetshwayo at the Battle of Ulundi on 4 July 1879, this leather belt and ammunition pouch was discovered. It's assumed it had been taken from Isandlwana and presented to the king. Labelled as being "Taken from Cetywayo", the belt was originally worn by a member of 1st Battalion, 24th (2nd Warwickshire) Regiment of Foot.

The 1st Battalion had been virtually annihilated at Isandlwana. The regimental accounting number on the reverse of the belt indicated that it been issued to Private Thomas Ales. A Liverpudlian who had joined the British Army in 1874, Ales was a recipient of the South Africa General Service Medal with clasps awarded for 1877 and 1878. Intriguingly, he was not listed among those killed at Isandlwana.



At 6ft 8in (203cm) and almost 25 stone (160kg), Cetshwayo was a formidable king who had killed his brother in battle to secure his royal succession

NATIONAL ARMY MUSEUM

Cetshwayo's belt is held in the collections of the National Army Museum in Chelsea, London
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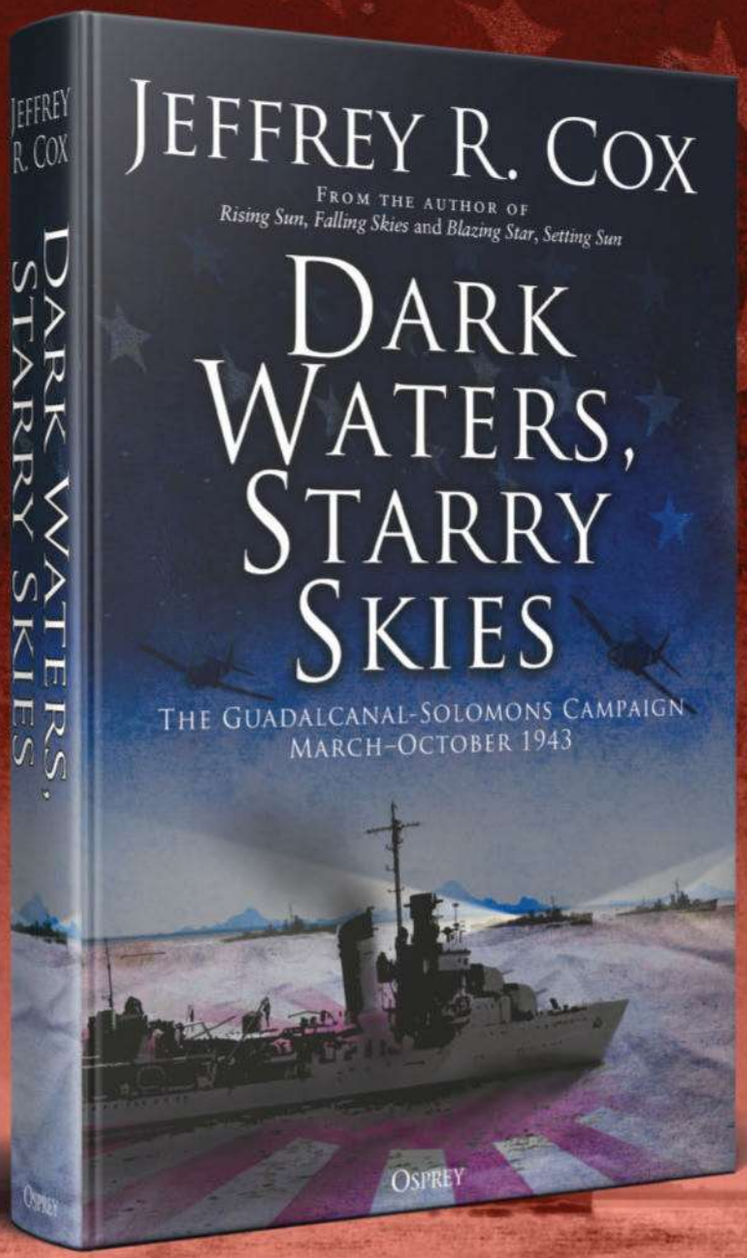

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